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ABSTRACT

Eight original research papers on Native American languages by faculty and students of the Linguistics Department and other related departments of the University of Kansas are presented. The titles and authors include the following: "Comanche Consonant Mutation: Initial Association or Feature Spread?" (James L. Armagost); "The Alsea Noun Phrase" (Eugene Buckley); "Linguistic Borrowing in Chicano Literature" (Eliverio Chavez); "Koasati Comparative Constructions" (Geoffrey Kimball); "Underlying Nasals in Crow, Hidatsa and Proto-Missouri River (Siouan)" (Jack Martin); "A Special Word in Jamual Diegueno" (Amy Miller); "The Focus Antipassive in K'iche' Mayan" (Clifton Pye); and "An Annotated Bibliography of Kiowa-Tanoan" (Robert Sprott). A list of the cumulative contents of Volumes 1-14 of the Kansas Working Papers is included. (LB)

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We would like to thank the faculty of the Linguistics Department and the Graduate Student Council for their continuing encouragement and support. We would also like to acknowledge the help of Zili He, who designed the picture on the cover.

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edited by

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COMANCHE CONSONANT MUTATION:
Initial Association or Feature Spread?

James L. Armagost

Abstract: Comanche initially appears to exhibit a slightly skewed but typical variety of consonant mutation for which one should expect an insightful floating feature analysis if claims for this approach are valid. I attempt such an account and contrast it with a feature changing approach, specifically the parameter framework recently advocated by Archangeli. I argue that the latter is superior.

Any analysis of mutation must attempt to account for two aspects of the phenomenon, namely (i) the variations in phonological substance manifested by the mutating segments themselves and (ii) the larger contextual pattern within which this mutation takes place. Comanche's mutation system, at first glance a relatively simple one, poses interesting problems of analysis for both (i) and (ii).

Morpheme initial consonants exhibit the mutation pattern shown in (1).[1] Refer to table 1 on the next page for examples.

(1) a. p t c k k^w
b. ^hp ^ht ^hc ^hk $^hk^w$
c. β ɾ

By hypothesis, selection between series (a), (b) and (c) depends on some phonological property of the preceding morpheme. A morpheme final skeletal position can be filled only by a glide or vowel. Morphemes with a final /h/ or /ʔ/ predictably induce series (c). All others may induce any of the three series. Mutation occurs after both morpheme and word boundaries, but at the beginning of a phonological phrase bounded by pauses the only option is the series (a) unaspirated stops. I will refer to (b) as the preaspirated stop series. The exact status of these consonants has been questioned, some studies taking them to be clusters, i.e. [hC] (Canonge 1957; Miller 1973; Armagost 1988a, 1988b), others suggesting a single segment analysis (Riggs 1949). The

Kansas Working Papers in Linguistics, 1989, Vol. 14, no.2, pp. 1-19.

	stop		preaspirated stop
1a.	*hipaʔa* 'on what'	1b.	*huuʰpaʔa* 'on a log'
2a.	*puni* 'to see'	2b.	*wociʰpuni* 'to spy on'
3a.	*sookí* 'much, many'	3b.	*wahaʰkí* 'two'
4a.	*tenanɨɨ* 'men'	4b.	*nanaʰtenanɨɨ* 'male relatives'
5a.	*nakituku* 'the same ear'		
6a.	*tani* 'to hang suspended sg.'	6b.	*wɨʰtani* 'to throw over a line'
7a.	*nakíaki* 'to come in sight'	7b.	*taʰkía* 'to drive out pl.'
8a.	*kʷeʔua* 'to shed'	8b.	*taʰkʷeʔua* 'to take off shoes sg.'

voiced spirant

1c.	*papiβaʔa*	'on a head'
	nakiβaʔa	'on an ear'
	tɨʰkaʔβaʔa	'on a table'
2c.	*naβuni*	'to see REFL'
3c.	*tɨeʰpɨʔɾí*	'child'
4c.	*naʔɾenaʰpɨʔ*	'male relative'
5c.	*moʔoɾuku*	'the same hand'

Table 1: Morpheme initial obstruents other than [s]

stop		preaspirated stop	
1a.	*papi* 'head'	1b.	*ʔɨʰpɨi* 'to sleep sg.'
2a.	*ʔotɨ* 'brown'	2b.	*kʷɨʰti* 'to shoot sg.'
3a.	*paciʔ* 'older sister'	3b.	*huʰtuuʔ* 'bird'
4a.	*pika* 'buckskin'	4b.	*piʰka* 'to make a drumming sound'
5a.	*yikʷi* 'to sit pl.'	5b.	*paraciʰkʷeʔe* 'to shine'

voiced spirant

1c.	*paβiʔ*	'older brother'
2c.	*karɨ*	'to sit sg.'

Table 2: Morpheme medial obstruents other than [s]

question forms a major thread running through this paper. In keeping with normal Numic usage, (c) may be referred to as the voiced spirant series despite the fact that [ɾ] is a tap. The strong asymmetry between (a,b) and (c) is given an appealing historical explanation by McLaughlin in work soon to be published. Finally, table 2 includes some examples to suggest that all the consonants of (1) are in superficial contrast within morphemes, though medial [^{h}k^{w}] is not at all common.

The consonants in (1) can be seen as the skewed manifestation of a basic five-position stop system found in a number of languages (Hockett 1955:102). Current autosegmental theories allow a number of possibe analyses. Before turning to a feature changing approach, which I will argue is superior, I will attempt to account for (1) through initial association of floating features in an analysis inspired by Lieber's treatment of Chemehuevi (1987:84-7), a related Southern Numic language. The full underlying consonant and vowel system of Comanche would be as follows, where capitals represent the source of (1) underspecified for various features:

(2)	P	T	C		K	K^{W}	
		s					
	m	n					
				y		w	h,ʔ
				i	ɨ	u	
				e	a	o	

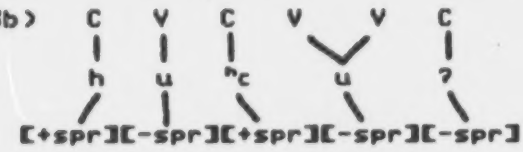
Hypothesizing for mutation series (1b) the single segment rather than cluster analysis, as introduced above, (1a,b) can be accounted for by allowing [spread] to function as a floating feature. I assume left to right, one to one initial association along with a timing mechanism whereby [+spread] is realized as preaspiration in stops. This value is also lexically present in the maximally underspecified /h/. Example (3a) gives the lexical entry for a morpheme having an initial /h/ and a medial preaspirated stop. The notation essentially follows Lieber's, with IPA transcription used informally for all melody features except [spread] and capitals continuing to be used for the source of series (1). Initial association and filling in of predictable values for underspecified [spread], i.e. [0spread], give (3b).

(3a) C V C V V C *hu'tuu?* 'bird'

h u C u ?

[+spr][0spr][+spr][0spr][0spr]

(3b)



Turning now to an example of influence across a morpheme boundary, (4) gives a lexical entry consisting of a verb root preceded by an instrumental prefix.

(4) *ta'k+a* 'to drive out pl.'

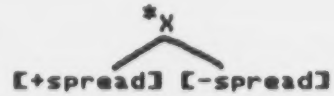
C V C V V

T a – K + a

[0spr][0spr][+spr] [0spr][0spr][0spr]

The verb root in citation form has [k], i.e. the default value for [spread]. This default value cannot be assigned in (4) prior to association of [+spread] from across the boundary or the following ungrammatical contour would result.

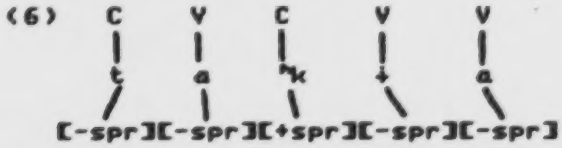
(5)



A contour constraint blocking association of [+spread] after default assignment would give incorrect *[tak+a]. Lieber does not address the mechanics of this problem in any substantial way, but merely leaves the mutation tier blank for such morpheme initial segments, i.e. [ ], with no association line except that from across the boundary. But it is clear that we need something to serve as a morpheme initial place holder on the mutation tier to guarantee correct lining up of second autosegments with second skeletal positions, etc. This problem is a manifestation of the extent to which the supposed autosegment is not an autosegment. In order to push the floating feature analysis through, I will assume [0spread] as above and cyclic initial association. On the second cycle [+spread] in essence

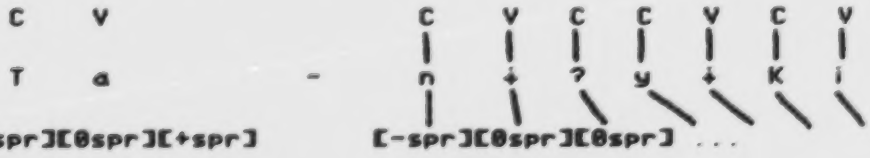
fills in the underspecified [0spread] in the root initial segment.[2] Only at some later point in the derivation will default values be assigned to any remaining unspecified features. In the word initial [t], [-spread] is by this mechanism. Lexical entry (4) thus surfaces as (6).

(6)



Since it is only the stops (and [h]) that are [+spread], initial association to other segments must be prevented. Within Lieber's framework this is accomplished by lexically prespecifying or preattaching for /n/, etc. the value [-spread] (see Archangeli 1988b: 795 for criticism). In (7), an intermediate point in a derivation, the above prefix is seen before a segment with this preattached feature.

(7) *tanɨʔyɨki* 'to make a sound of footsteps'



On the prefix cycle docking of [+spread] is prevented by the constraint on contours. Eventual deletion of such unassociated features results in surface [n]. This approach unfortunately requires extensive lexical attachment of what would otherwise be default values for [spread]. It also fails to distinguish such 'irregularity' from true lexical exceptions such as the invariant form [ʰta] 'obj.', which has a [+spread] stop even when suffixed to a spirantizing form such as [puhihwi] 'money': [puhihwiβai] 'to have money', but [puhihwiʰta] 'money obj.' Lieber intends lexical attachment to be costly, and this should presumably explain the fact that there are only a few forms like [ʰta].

Turning now to the spirants of consonant series (1c), the relevant mutation feature(s) must be identified. The optimal floating feature analysis would hypothesize surface [ɾ] to be from [ð] by a late rule,

thus allowing analysis of the spirants as intermediate /β, ð/. These then differ from the corresponding series (1a) stops in two features, [voice] and [continuant]. Note that for the segments in (1) and (2) there are implicational relationships between these features: only the nonnasal [+voice] segments are continuants and only the nonstrident continuants are [+voice] (again taking [ɾ] to be intermediate /ð/). Hypothesizing both [voice] and [continuant] as mutation features (as Lieber would presumably do) therefore predicts non-occuring phonetic realizations unless one constrains intratier feature specifications prior to initial association and default assignment. If we take just one of the features to underlie spirantization, then the predictable values for the other can be supplied by default following initial association.

Lieber proposes no constraints on selection of mutation tiers, but formalizations of segment internal feature geometry such as that in figure 1 on the next page, which I now assume for the remainder of this paper, can suggest motivated choice. If [+voice] is the feature that causes spirantization of stops, then the entire set of consonants in mutation series (1) can be attributed to the laryngeal node rather than to the interplay of two or more unrelated features. As in most languages the third laryngeal feature is severely constrained in Comanche, which has only a single [+constricted] segment. There may still be unexplained phonetic gaps, however, if values for [voice] and [spread] can be restricted in the lexicon only by duplicating the statement of certain default values assigned to morpheme medial segments after initial association.

Shown in (8) is part of the derivation of *naɾɨnoo?* 'saddle' (/naɾ[+voice]/ 'reflexive', /Tɨ/ 'indef. obj.', /noo[+voice]/ 'to carry', /?/ 'nominalizer'). Initial association has applied on the penultimate cycle in (8a). The final cycle, eventual assignment of default values to unspecified features including [continuant], and a late feature changing rule for [ɾ] give (8b) as the surface form. (In order to simplify representation in this example I have omitted the laryngeal node and show [voice] and [spread] docking in a slightly misleading manner. Note that while Lieber's framework would require lexical attachment of [-spread] and [+voice] in nonmutating initial segments such as /n/, /?/ could be unspecified for [spread] since unwanted docking of [+spread] could

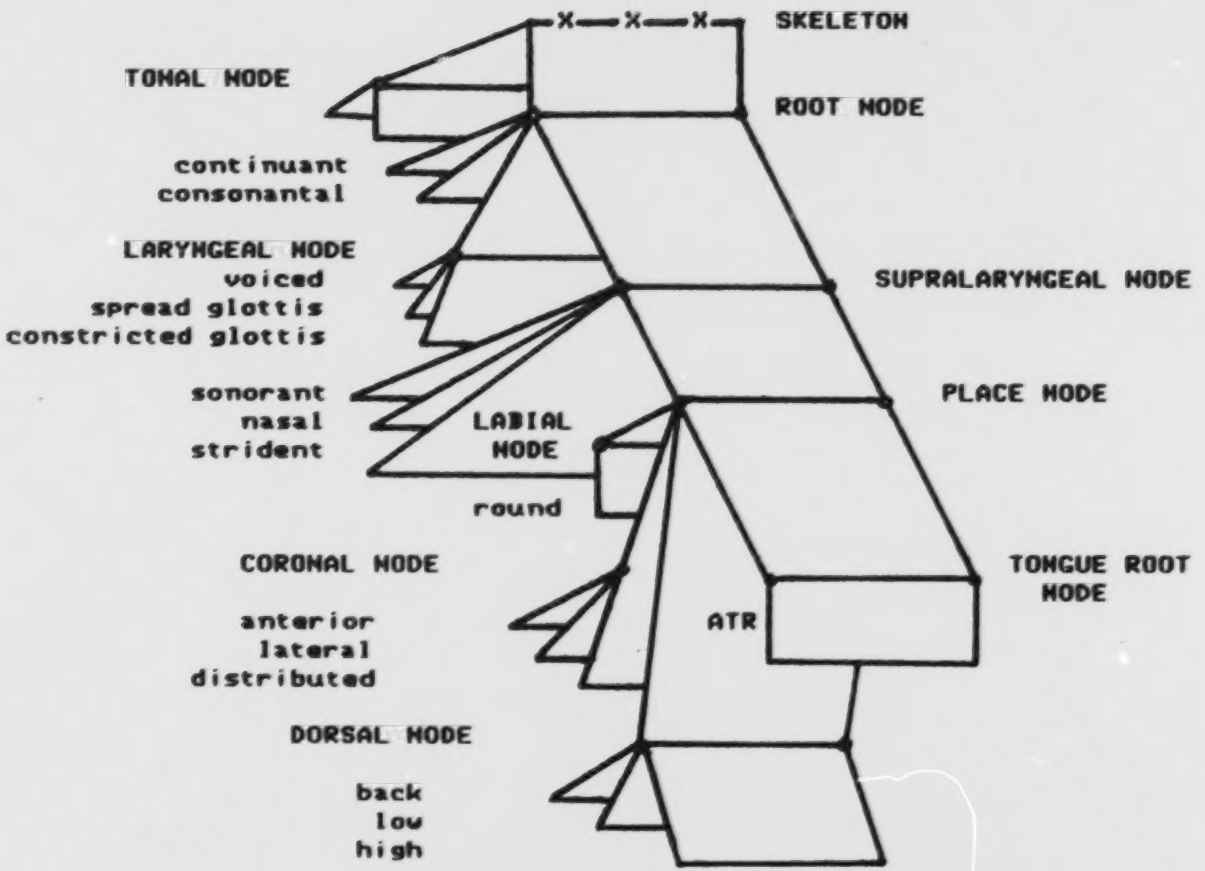


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Figure 1. Feature hierarchy (Clements 1985, Sagey 1986, Ladefoged and Halle 1988, and others)

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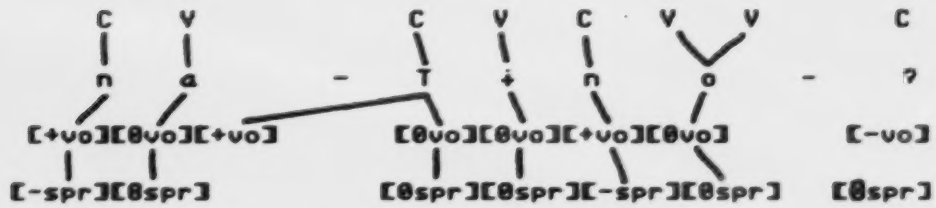
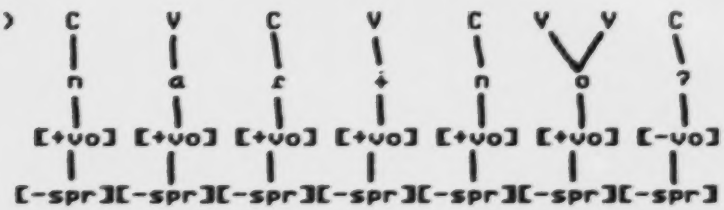
be prevented by a universal constraint blocking [+constricted, +spread]. But similar blocked docking of [+voice] in /ʔ/ would require giving up maximal underspecification of this segment as [+constricted].)

(8a) *naɾ+noo*ʔ 'saddle'

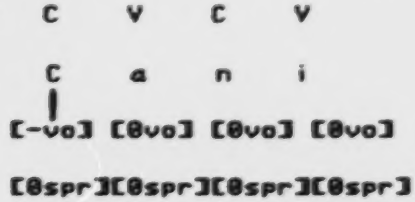


(8b)



Some account must be given of the fact that the only mutation series spirants are [β,ɾ]. There are two possible approaches to this sort of problem in Lieber's framework. One could block unwanted docking of [+voice] by preattaching [-voice] in all morpheme initial /C,K,K^{w}/. The lexical entry for [cani] 'to hang suspended sg.' would then be as in (9).

(9)



Alternatively, one could propose unrestricted docking of [+voice] across a morpheme boundary and a later rule to delink this feature in the three appropriate segments prior to the filling in of redundant [+continuant]. The value [-voice] could then be provided by default and the segments would remain [-continuant]. This was essentially the approach of Armagost 1988c.

Each of these alternatives requires a disjunction of features in order to distinguish the relevant segments and each involves other forms of complexity as

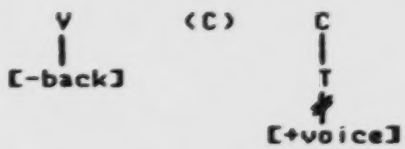
well. Though capable of mechanically cranking out the data, it is clear that neither could be claimed to provide any insight. Without attempting to justify a choice between the two, I will now turn to a final problem in the floating feature account of the spirant series. While [β] occurs in all spirantization contexts, [t] rather than [ɾ] occurs if the preceding syllable has a front vowel. This is illustrated in (11) for the clitic postpositions /Pa?a/ 'on' and /Tuku/ 'same'.

(11)

	'on X'	'same X'
'buffalo'	*ta?siwɓo?βa?a*	*ta?siwɓo?ɾuku*
'table'	*tɨ̀ʰka?βa?a*	*tɨ̀ʰka?ɾuku*
'head'	*papiβa?a*	*papituku*
'ear'	*nakIβa?a*	*nakItuku*
'clubbed ones'	*wɨ̀ʰtokʷʷe?βa?a*	*wɨ̀ʰtokʷʷe?tuku*

These data appear to require a delinking rule along the lines of (12), whose application would be followed by assignment of the default value [-voice] to intermediate /T/, giving surface [t].

(12)



This completes the floating feature analysis on the assumption, stated earlier, that consonant series (1b) consists of single preaspirated phones rather than clusters of segmental [h] plus stop. Riggs (1949) defended this interpretation of (1b) though without reference to what may be the strongest evidence in its favor, the predictability at a fairly superficial level of what are commonly known as organic voiceless vowels. As (13) shows, unstressed vowels are devoiced by a following voiceless continuant which, if /h/, then deletes under various conditions (Armagost 1988b). Preaspirated stops have no effect on preceding vowels.

(13) *pukukɬni* 'barn' (cp. *kahni* 'house')
wana?ɬhɨ́ 'cloth blanket'
kutɬhosa 'to dig a firepit'
?omomɬsɨ́ 'still by foot'
kakɬsa 'wing redup.'

pɨmɬsuʔa 'themselves also'
BUT: *wacitʲpuni* 'to spy on'
puhihwitʲa 'money obj.'
kumaʲpɨʔ 'husband'
yɨɾɨʲki 'to frighten'

Canonge (1957), however, in what amounts to an unconnected addendum to his defense of the supposed phonemic status of these vowels, argues that the consonants are in fact clusters and not unit phonemes. His most persuasive evidence is the existence of a definite, perceptible syllable division between the aspiration and the stop in both rapid and slow speech (notwithstanding the majority of relevant line breaks in Canonge 1958). It is certainly possible for the above floating feature analysis to account for Canonge's observation by means of a rule inserting a coda before preaspirated stops, with delinking of the aspiration and relinking to the new consonant. In order to maintain the predictability of organic voiceless vowels, coda insertion would be ordered after devoicing. Other things being equal, however, the advantage would clearly go to the analysis in which coda insertion and shifting of aspiration was not necessary.

If Comanche does not have unit preaspirated stops then some mechanism other than initial association of a floating feature must account for the difference in consonant series (1a,b), thus weakening the hypothesized parallel between preaspiration and spirantization. As we saw, however, there are independent reasons for doubting the floating feature analysis of spirantization itself. In the feature changing alternative we must still address two facts: [ɾ] is not a spirant and its distribution differs from that of [β], as in (11). These facts would be connected as direct consequences of an early rule shifting /T/ to [ɾ] when preceded by a back vowel (if there were no additional rule affecting /T/). Then spirantization would affect only certain occurrences of /P/ and would have nothing to do with [ɾ].

In what follows I assume radical underspecification and a highly restricted, parameterized approach to phonology, in particular that of Archangeli (1988a). Comanche's underlying consonant and vowel pattern is again that shown in (2). For the present we can assume that glottals are the only allowed codas, as is true phonetically. /ʔ/ is minimally specified [+constricted] and /h/, [+spread]. Looking first at consonant series

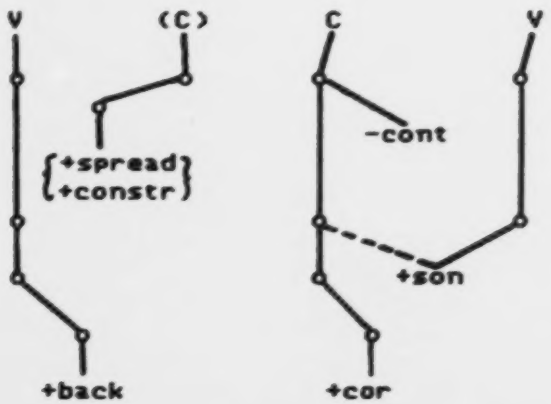
(1a,c), the tap formation rule (14) gives [ɾ] in a process unrelated to spirantization. In the framework adopted here a rule can affect only a single feature or node and the affected segment must be adjacent to any named environment, where adjacency is determined by the hierarchical organization of features given in figure 1 and the parameter 'level', which allows two options: scanning at prosody (maximal level) or at the node immediately dominating the feature or node undergoing the rule (minimal level). 'Argument' names the feature or node undergoing the rule, 'operation' names the process involved, 'trigger' names adjacent conditioning environment, and 'target' names intrasegmental conditioning environment.

(14) Tap formation

Level:	minimal
Operation:	spread left
Argument:	[son]
Trigger:	L = R = [+syll]; L = [+back]
Target:	[-cont,+cor]

Tap formation is illustrated in (15), which shows a possible glottal segment intervening between the back vowel and the affected /T/. (Refer again to (11) and table 1.)

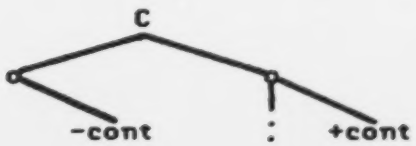
(15)



Note that since the intervening glottal is specified only for a laryngeal feature, all others being predictable, the segment is invisible when scanning takes place across supralaryngeal nodes and thus need not be mentioned in the rule, a desirable effect of this approach. As we saw above, [+voice] is predictable in [ɾ]. I assume also predictability of whatever other feature(s) may distinguish taps from stops, the

distinction perhaps being that of maintainable versus momentary stricture (Catford 1988:70), though this is a question on which there has been little consensus. Finally, since (14) is sensitive to the environment on the right of the affected segment, it automatically distinguishes /T/ from /C/, to which we do not want it to apply, assuming that the latter has the structure shown in (16) (following Sagey 1986 and others). Thus this aspect of tap formation is also free of cost.

(16)



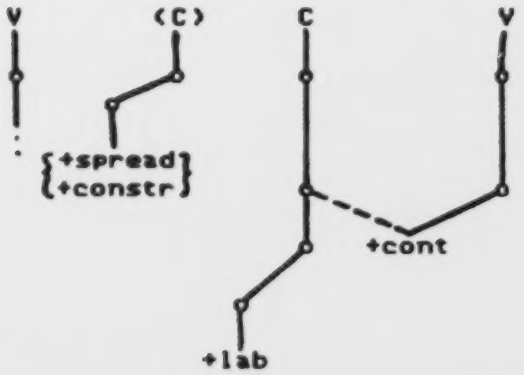
Spirantization then is restricted to the labial stop, which must be converted to its voiced continuant counterpart. Unfortunately, choice of neither [voice] nor [continuant] as argument would allow a transparent intervening glottal segment, as desired. A partial remedy to this difficulty would be to view spirantization as the rightward spread of [+continuant] to /P/ from a preceding vowel or /h/, once these segments are provided the redundant value of this feature. No assimilation to /s/ could occur since such a consonant can only be an onset. But in this account of spirantization, the desired assimilation across an intervening /?/ would be blocked.

From the point of view of Comanche a more satisfying solution is to hypothesize that either [voice] or [continuant] is sufficiently low in the hierarchy to allow an intervening glottal at no cost. It is important to remember that while articulator based geometries such as figure 1 must have some pretheoretically satisfying fit with physiological fact, they are not linguistic givens. The feature hierarchy, like all other aspects of linguistic theory, can only be determined through careful hypothesis testing over a wide range of languages. These remarks logically apply equally to both [voice] and [continuant], but a priori one would certainly expect that [voice] should be a laryngeal feature. By contrast, continuants are not directly tied to the anatomy of a particular structure but result from some configuration of the entire oral tract. One would therefore expect the location of [continuant] in the hierarchy to be less easily determined, perhaps even variable across languages. The data suggest that in Comanche [continuant] is at least

as low as the supralaryngeal node. Spirantization of /P/ then can be stated as in (17), which is illustrated in (18).

(17) Spirantization
Level: minimal
Oper: spread left
Arg: [cont]
Trig: L = R = [+syll]
Targ: [+lab]

(18)



Given the hypothesized location of [continuant], an intervening /h/ or /ʔ/ is now transparent, as desired. The output of rule (17), intermediate /ɸ/, falls into the class of sonorants and continuants and is predictably voiced, surfacing as [β]. (Both /s/ and the glottals are removed from this class by prior assignment of [-voice], predictable in these segments.)

Tap formation and true spirantization together account for all surface [ɾ] and [β] at relatively little cost. They also automatically account for [t] rather than [ɾ] following syllables with front vowels. The two rules overgenerate, however, since they deny the existence in phrase medial position of [p] and of [t] after back vowels. While an intervening glottal is transparent to both rules, their application would be blocked by an intervening coda having some specified feature sufficiently low in the hierarchy to be within the level of scanning, i.e. no higher than the supralaryngeal node. The fact that the only phonetic codas are [h] and [ʔ] can be directly accounted for by lexically restricting codas to /h/ and /ʔ/, as assumed to this point. But the facts can be accounted for indirectly by positing less constrained underlying codas along with a rule to eventually delete nonglottal codas.

The 'opaque consonant' cannot be identified as any of the underlying segments given in (2), suggesting that it is only very minimally specified for features at or below the supralaryngeal node, perhaps merely [-sonorant]. Lack of evidence for general default values for obstruent point of articulation features suggests that the blocking segment cannot occur as an onset but only as a coda. A citation form such as *papi* 'head' then has the structure /Pa[-son]Pi/ at the point where spirantization attempts to apply. Similarly, tap formation is blocked in /ʔa[-son]Ta/ 'other', which surfaces as *ʔata* .

The hypothesized [-sonorant] segment does not result in blocked organic devoicing, however. This is shown in (19) for /kɬ[-son]/, the causative-benefactive suffix. (The preaspirated [k] in both forms is interpreted as an [hk] cluster, as discussed above. A less definite future is marked by *-hutuʔI* , a more definite future by *-tuʔI* alone.)

(19) *nomohkakɬtuʔI* 'will hitch up (wagon) for'
(suffixes /kɬ[-son]-tuʔih/)
tɬhkakɬhutuʔI 'will cause to eat'
(suffixes /kɬ[-son]-hu[-son]-tuʔih/)

Organic devoicing, which is an assimilation to the voicelessness of a following /h/ or /s/, does not tolerate any intervening segments and therefore follows deletion of the minimally specified obstruent in (19). However, note that the preconsonantal [h] in these and similar forms does not induce devoicing but does block tap formation and spirantization, as in (20).

(20) *nacahpuni* 'to be tested'
nanahtena 'male relative'

This [h] is phonetically identical to the surface manifestation of the /h/ that induces organic devoicing, but is phonologically distinct from it. As can be seen, it shares three properties with the opaque obstruent appealed to above: it is a coda, it blocks tap formation and spirantization, and it does not induce organic devoicing. Lexically it appears to differ from the obstruent only minimally, being [+spread] while the latter is presumably [0spread].

The opaque obstruent hypothesized above thus appears to exist in two forms differing only in specification for [spread], a feature that until now was

distinctive only for /h/. While in general restricted to medial and final codas, a handfull of irregular suffixes have the [+spread] version in morpheme initial position, e.g. *yukahpíni* 'to cry much', with suffix *-hpíni* 'intensive'. If [0spread], the opaque segment is deleted by a rule ordered after tap formation and spirantization, as we saw above. If [+spread], its fate is more complex. Preceding a noncontinuant obstruent it surfaces as [h], but in all other contexts (phrase final or preceding a sonorant or /s/) it is deleted.

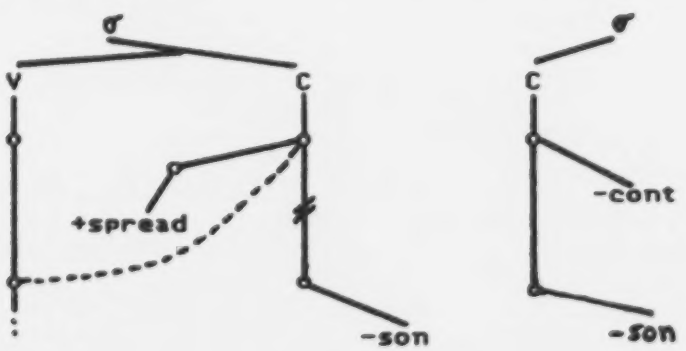
Its manifestation as [h], as opposed to some other phonetic reality, can be seen as virtually cost free once the grammar contains the following dissimilation rule.

(21) Obstruent dissimilation

Level:	minimal
Oper:	delink
Arg:	supralaryngeal node
Trig:	[-son, -cont]
Targ:	[+spread]

This rule creates a segment identical to a lexically underspecified /h/. Assuming conventional assignment of predictable values for the other laryngeal features, and conventional assimilation to the supralaryngeal node of the preceding vowel, this segment surfaces as [h]. No process has disturbed its status as a coda, however, as shown in (22).

(22)



Summarizing the spreading analysis of mutation series (1), /T/ following a back vowel undergoes tap formation rule (14) and surfaces as [ɾ], and spirantization rule (17) affects only /P/. The possible presence of an intervening transparent /h/ or /ʔ/ need not be mentioned in either rule, but an intervening

opaque obstruent coda results in blocked application. This segment, when [+spread] and preceding /P,T,C,K,K^{W}/, surfaces as an [h] with the desired properties of a phonetic coda, but not until after organic devoicing is triggered by underlying /h/ and /s/. Vowels followed by preaspirated stops are therefore unaffected by organic devoicing. Deletion of remaining obstruent codas, whether [+spread] or [-spread], follows. This gives a distribution in which [h] before a sonorant is from /h/ but [h] before a stop is from [+spread,-sonorant].

While initially appealing, the attempt to account for (1) by hypothesizing a floating feature complex is most likely misguided. Such an analysis accounts for the distribution of [β] and [c] only in a clumsy way. The account of preaspiration would remain attractive if one could maintain the fiction that preaspirated stops are single phones and not consonant clusters, for this would result in a very straightforward analysis of organic voiceless vowels. On the other hand, the spreading analysis of spirantization is quite elegant, especially in the parameterized framework adopted here. The spreading analysis of preaspiration makes for a slightly more complicated account of the distribution of vowel quality but this seems well worth the cost since it avoids a dubious process of consonant slot insertion and transfer of aspiration from stops to this slot. Overall then, while this analysis differs in detail from others for Comanche, it does reaffirm the traditional approach involving Central Numic 'final features' as presented by Miller (1973), McLaughlin (1987), Charney (1988) and others.

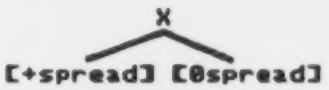
NOTES

1. In this paper the term 'Comanche' refers to that form of the language recorded in Canonge's materials and my own limited fieldwork. Slightly different varieties are found elsewhere, for example in Charney 1988. Notation is conventional ('c' = 'ts'), with stress marked only when it unpredictably falls on a noninitial syllable. Some of the material in this paper was presented before the 1988 Mid-America Linguistics Conference, Norman.

2. I am assuming that the following

pseudocontour is interpreted by general linguistic theory to mean [+spread], i.e. that [0spread] is automatically removed in this situation.

(i)



3. See Archangeli 1988a for similar arguments that [round] is a dorsal rather than labial feature.

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THE ALSEA NOUN PHRASE

Eugene Buckley

0. Introduction

This paper examines the structure of the noun phrase in Alsea, an extinct language of the Oregon coast, with particular attention to the behavior of a clitic occurring in second position within the NP. I will first present the basic facts and then consider an appropriate formal analysis. Since this analysis is based on incomplete data limited by the contents of the available texts, there are certain issues which cannot be resolved definitively. The basic facts, however, are clear and interesting enough to warrant an attempt at a formal treatment.[1]

1. The noun phrase

The Alsea noun phrase has the following basic structure, where [t] and [s] are elements which will be explained later:

(a) DETERMINER modifier-[t] [s]-noun

The determiner further has the following composition:

(b) DEICTIC-REFERENTIAL

In addition, the entire phrase may be preceded by an ergative case marker. These elements will be discussed in the sections below.

1.1. The referential [s] and the deictics

A noun can occur by itself; generally this is in a nonreferential, generic use:

(1) p-*su·wí·t* ɬ-uwátɪ-ayu·-sɪ-am
2plS-wind TRL-become-TRL-REFL-INTR
'Turn into winds!' (34.1)

By far the most common case, however, is to have both a deictic and the referential present. There are three deictic prefixes relevant here, of the forms [a], [ku], and [ta, tə]. They indicate the position of the noun in physical space but also seem to serve discourse functions as well; since their precise meaning is not important for the present purpose, they will all be glossed DEI. Following the deictic element is the referential [s]. Together they form a determiner which precedes the noun:

(2) ɬəʔáys-ɪ *ku-s* cu·táys
see-CMPL DEI-REF salmon
'He saw a salmon.' (106.10)

Kansas Working Papers in Linguistics, 1989, Vol. 14, no.2, pp. 20-36.

(3) *ta-s* cí·ciƙ' ƚ-ti·wí·t'hwan-ƚn-ɪ
DEI-REF arrow TR-make-PASS-CMPL
'Arrows were made.' (40.22)

Occasionally a noun is found without the referential [s] but with a deictic marker. Often these examples are in quoted speech and refer to characters in a story. It is assumed that this omission serves some pragmatic function, since under normal circumstances an object must be referential in order for its location in space to be specified:

(4) ƚə-ʔí·ƚ-aɪ-an *ku* ma·lí·ct
TR-refuse-CMPL-1sgS DEI sea.otter
'I refuse (to marry) that sea otter!' (92.15)

There are also a few examples of the referential [s] without a deictic. This may at times be a reduction of [as], but in some cases such as [s-lahwí·] 'the world, the earth' the vowel is nearly always omitted and the entire phrase may be lexicalized. In this particular case it seems reasonable to omit the deictic since 'the earth' is always in the same place.

Deictics can also be added directly to emphatic pronouns, though this use is not common since the position of, say, the speaker is generally obvious:

(5) ƙ-in q̌ám-aw-tɪ-am *tə*-q̌ún
FUT-1sgS behind-DUR-HAB-INTR DEI-1sg
'*I'll* walk behind.' (158.21)

In this context the deictic is probably motivated by the emphasis of the speaker on his physical location.

1.2. The possessive pronouns

In all of the examples above, the referential [s] can be replaced by a first- or second-person possessive pronoun. The possessive pronoun and the referential never cooccur, presumably because for a thing to be possessed it must be referential (i.e. the NP must have a specific referent). In other words, the possessive pronouns are really more specific variants of the referential:

(6) á-*ƚin* cá·s-tuɪs
DEI-1plP win-COLL
'our winnings' (26.17)

(7) kú-*pin* qá·sint
DEI-2plP younger.sister
'your younger sister' (22.10)

Often the possessive pronoun occurs without any deictic, probably because the indication of the possessor is usually sufficient to identify the referent without specifying its location:

(8) *sin* si·yaʔ
1sgP leg
'my leg' (72.31)

1.3. The third-person possessive

The remarks above with regard to the first- and second-person possessive pronouns are largely true of the third-person possessive circumfix [c...ɣ]. The initial element [c] appears prefixed to the noun, while the final [ɣ] appears suffixed to the noun. Most frequently there is no deictic:

(9) *c-hą́y-ɣ*
POSS-mind-POSS
'his mind' (86.15)

It appears that historically the initial [c] may come from the deictic-referential [tas], but synchronically this [c] is simply required in order to mark a noun as possessed by a third person. Interestingly, though, it seems to have retained its referential meaning and is thus parallel to the possessive pronouns: no referential [s] cooccurs with either of them. Thus one finds the simple deictic, including the possible cognate [tə], attached directly to [c]:

(10) *ku-c-tá·-ɣ*
DEI-POSS-father-POSS
'his father' (70.14)

(11) *tə-c-ɬú·ɣ-iɣ*
DEI-POSS-head-POSS
'his head' (120.25)

If a noun indicating the possessor is present, then it generally occurs before the possessed noun (which is marked with the circumfix). In this case the referential [s] does appear at the beginning of the NP, but it seems to refer to the possessor and not the entire NP. This is because the head of the NP is already marked as referential by [c]:

(12) [[*a-s* xámni] [*c-*ɬaqúsin-*ɣ*]]
DEI-REF whale POSS-skin-POSS
'the whale's skin' (80.8)

Evidence that the initial deictic and referential refer only to the adjacent noun and not the whole NP comes from structures where the possessor appears after the possessed noun, in which case it is possible (but not necessary) to get deictic markers on both nouns:

(13) [c-hi·lk̆áys-ɣ] [*ku-*s ckátina]
POSS-actions-POSS DEI-REF crane
'the crane's actions' (72.36)

(14) [*a-*c-məɬa·násti·yu·-ɣ-itx] [*a-*s ɬayá·cit]
DEI-POSS-chief-POSS-PL DEI-REF villager
'the chief of these villagers' (228.6)

The correct generalization seems to be that if the possessor precedes the head, then the NP as a whole is not marked with a deictic; if the possessor follows, then the head (and therefore the whole NP) can be marked. This restriction may be related to the proposed origin of [c] as a deictic and referential determiner. Note the similarity to the possessive pronouns, which also

generally occur without a deictic; the same explanation, that they are subtypes of the referential, plays a part with the third-person possessive as well.

With multiple possession the head comes to the right of its complement in each case:

(15) [[[*ku-s* s'ú·ku] [*c-q̌á·n-ɬ*]] [*c-ɬú·ɬ-iɬ*]]
DEI-REF Suku POSS-son-POSS POSS-head-POSS
'Suku's son's head' (72.21)

Here again the determiner [kus] seems to refer just to the dependent noun [s'ú·ku] and not to either of the possessed nouns. Unmodified nouns (including proper names) have a general requirement for a determiner, while nouns with [c...ɬ] are already determined; thus the [kus] must refer to Suku, and must *not* refer to the other nouns. Compare the following example, where the possessive pronoun 'my' clearly must refer only to the first instance of 'father', because the second (the head of the NP) is possessed by the first:

(16) *sin* ta·ʔ c-tá··ɬ
1sgP father POSS-father-POSS
'my father's father' (j66.38)

Since the referential and the possessive pronoun are in parallel structures in all ways examined so far, it seems reasonable to argue that in (12) and (15) as well the two are parallel and both modify the immediately adjacent N, not the higher argument NP.

1.4. The ergative

Nouns which serve as the subject of a transitive verb are preceded by the ergative marker [qa, ɪa]. This proclitic can occur with or without a deictic, but when it is used with a nonpronominal it (like deictics themselves) always seems to combine with the referential [s] or one of its possessive substitutes:

(17) *ɪa*-ku-sín ɬámɪad-u·
ERG-DEI-1sgP child-PL
'my children' (86.17)

(18) *qa*-kú-s ɬaqúsin
ERG-DEI-REF skin
'the skin' (80.14)

Like a deictic, the ergative can be added directly to a pronoun, possessive [c], possessive pronoun, and referential [s]:

(19) *ɪa-sín* qúmhat
ERG-1sgP brother-in-law
'my brother-in-law' (118.31)

(20) *qa-c*-máhac-ɬ
ERG-POSS-boy-POSS
'her son' (214.10)

(21) *qa*-ní·ɪ
ERG-2sg
'you' (48.29)

(22) *qa-s* hí·tɬam
ERG-REF person
'(you) people' (46.13)

It may be correct to say that the ergative always occurs with a deictic, since instances of [qa] are phonologically ambiguous between the simple ergative on the one hand and the ergative and an elided deictic [a] on the other. Not enough is understood of the use of the deictics to give direct contextual evidence for or against the underlying presence of the [a] in such cases.

The ergative comes at the beginning of the NP and not before the head, though of course ergativity is the property of an argument and thus of the head, not some dependent noun:

(23) *ɪa-s* klámclam c-ɬámɪad-u·-k̲
ERG-REF earth.people POSS-child-PL-POSS
'the children of the earth people' (104.18)

(24) *qa-s* ɪám'-ət s-kʷi·ʔ
ERG-REF one-ADJ CSTR-canoe
'a certain canoe' (166.10)

In (23) the ergative [ɪa] refers to the entire NP, which is the subject of the sentence, while it seems best to say that the referential [s] refers to the immediately following noun, as discussed above. In fact, the underlying structure may be /ɪa-a-s/, where the /a-s/ refers to 'earth people' and /ɪa/, which is procliticized on the entire phrase, refers to the argument NP 'children of the earth people'.

1.5. Modifiers

The label 'modifier' given at the beginning of this paper refers to adjectives and numerals and occasionally nouns. The numerals (which seem to be a subclass of adjective) are always followed by the adjectival suffix [-t] when in attributive position. Adjectives used attributively generally also take this suffix but not always; the conditions determining its occurrence are not entirely clear to me, but it appears to be a lexical property of the adjective itself.

In addition to the adjectival [t] which is suffixed to the modifier, there is a formative [s] which appears prefixed to the following noun. This [s] can be found even when the [t] is absent. It is homophonous with the referential marker, and may historically be related to it, but since the two can cooccur, and are found in different places, it seems unreasonable to call them the same morpheme. Note, however, that a modified noun often occurs without a determiner, a fact which may be a result of this historical origin (more on this in section 3).

(25) xám'-*ət* *s*-hí·tslam yá·c-ɤ
one-ADJ CSTR-person live-CMPL
'There once lived a certain person.' (j72.19)

(26) *ku-s* xítɬ-*it* *s*-məháyt-u·
DEI-REF two-ADJ CSTR-old.man-PL
'the two old men' (72.22)

(27) *a-s* kú·ku-*t* *s*-ɬílu·
DEI-REF ocean-ADJ CSTR-water
'the ocean water'

The last example shows a noun used as a modifier; this is much less common than the adjectives exemplified in (25) and (26). I have glossed the [s] as CSTR for construct, since its function is similar to that of the Semitic construct state, which marks a noun as being 'in construct with' a dependent noun. The Alsea morpheme indicates that the head noun is modified by the preceding word - whether adjective or noun.

Although in nearly every example this [s] occurs before a noun, this may be an accidental result of the fact that all the nouns have just one modifier. The one example I found of a noun with two attributive adjectives shows a somewhat different situation:

(28) qáwɤ-*ət* *s*-mə?a?qayt-*it* *s*-hí·tslam
high-ADJ CSTR-rich-ADJ CSTR-person
'a rich person living in the sky' (228.27)

It seems here that the clitic [s] is related to the adjective preceding it rather than to the word following it, which can be either a noun or another adjective. This notion receives support from the fact that certain modifiers (i.e. quantifiers) do not occur with this [s], though they do occur with the referential [s] found with deictics:

(29) məqamín-t hí·tslam
many-ADJ person
'many people' (j66.2)

(30) hamsti·?-t-əɤ incɬí·s
all-ADJ-2sgS thing
'You [have seen] everything' (182.21)

(31) *qa-s* hamsti·? hí·tslam
ERG-REF all person
'all the people' (54.20)

The modifier [s] might thus be argued to be the type of clitic described by Klavans (1985) which is syntactically dependent on the previous word but phonologically dependent on the following. I will claim later, however, that the construct analysis is correct.

The modifier of the noun is considered a separate constituent for the placement of a second-position sentential clitic, such as those marking the

subject. That is, these clitics occur after the first word of the sentence, even if this involves splitting an argument:

(32) xám'-t-*əf* s-milhu·dáys
one-ADJ-we CSTR-tribe
'We are one tribe.' (204.29)

(33) qa-s xíɬ̓-ət-*awɪ* s-hí·tslam
ERG-REF two-ADJ-3duS CSTR-person
'two people [kept hitting the grass]' (46.7)

See also (30). Examples such as these, as well as the fact that they do not always cooccur, motivate the separation of [t] and [s] into different formatives, even though both are present due to the preceding modifier.

The possessive prefix [c] patterns with the construct [s] in that it is prefixed to the noun; for this reason modifiers precede it. Note that when the prefix [c] is present the construct [s] is absent:

(34) i·s xám'-ət *c*-acx̣áys-x̣
in one-ADJ POSS-sleeping-POSS
'during one of his naps' (174.23)

(35) qalpáyɪat-it *c*-x̣áɪx̣ati·s-x̣
next-ADJ POSS-meeting-POSS
'their next meeting' (108.32)

This situation is parallel to the referential [s] which also cannot directly precede the possessive prefix.

Due to the limitations of the data available for Alsea, there is no good evidence for deciding whether the first and second-person possessive pronouns belong to the same pattern as the construct [s] and possessive [c]. That is, it is impossible to say for sure whether an adjective would precede or follow the possessive pronoun. In his field notes at the Smithsonian, Frachtenberg gives the following constrast (the parse is mine):

(36) qan-í·-sal sin ta·ʔ
die-INCH-DSTR 1sgP father
'My father is dead.'

(37) qaní·st-it sin ta·ʔ
dead-ADJ 1sgP father
'my dead father'

The first example, (36), I would translate 'My father died (long ago)', since the distributive suffix /sal/ is used to mark the remote past and the perfect aspect (Buckley 1986). At any rate this is definitely a verb-subject construction. In (37) the situation is not so clear. I am confident that the first word is an adjective, but it is not clear that this is a noun phrase. Frachtenberg puts a question mark next to these two sentences as though he is not sure of the translations. Since there is no copula in Alsea, the adjective could easily be predicative rather than attributive, in which case (37) would be a sentence

meaning 'My father is dead.' Thus it is difficult to be certain whether (37) is even relevant to the present discussion.

In the published texts, there is no clear example of an attributive modifier and possessive pronoun cooccuring, except for the quantifier 'all' which is free to float outside the NP anyway:

(38) hamsti·ʔ *sin* hí·tslam
all 1sgP person
'all my people' (214.10)

While in (31) above the quantifier follows the determiner as would a normal adjective, the opposite order is equally possible:

(39) hamsti·ʔ *qa-s* hí·tslam
all ERG-REF person
'all the people' (54.17)

Given this ability to float, the position of the quantifier in (38) does not tell us anything definitive about the possessive pronoun.

One other construction might be interpreted as evidence that the possessive pronoun follows modifiers:

(40) i·s yúɪwi·s *tin* ƛiná·ɪayt'
to own 1plP neighbor
'towards our own neighbors' (184.13)

(41) yúɪwi·s *sin* ƛiná·ɪayt'
own 1sgP neighbor
'my own neighbors' (184.15)

Here the element [yúɪwi·s] precedes the possessive pronoun. But again, the significance of this fact is unclear since [yúɪwi·s] is not a typical modifier: it takes no [t] suffix here, and has the internal morphology of a noun. I have also found no examples of [yúɪwi·s] serving as a modifier of a noun with a deictic-referential determiner, with which (40) and (41) could be compared.

One fact argues in the opposite direction, that the possessive pronouns pattern like the referential [s] and should precede modifiers: the transcription that Frachtenberg uses. He writes both the possessive prefix [c] and the construct [s] as part of the word that follows - consistent with the common syntactic patterning described above - but the deictic-referential determiner and the possessive pronouns as separate words, suggesting that perhaps they pattern together as well. Since they are also found with (secondary?) stress as in (17) they are unlikely to be prefixes on the noun; I think they are probably clitics which occur at the beginning of their noun phrase. It may be that there are other examples in Frachtenberg's notes which bear on this issue, but for the time being I will assume that the possessive pronouns pattern with the referential.

2. The dative [ks]

There is a dative morpheme [ks], most often indicating motion towards the noun ('allative'), which, in an unmodified noun phrase, occurs directly after the noun. Note that this is the situation whether there is just a noun, or a noun with a determiner:

(42) ní·x-*ak̓s*
2sg-DAT
'for you' (174.2)

(43) ɬəyá·cit-*ək̓s*
village-DAT
'to a village' (34.24)

(44) sin i·cáys-*ik̓s*
1sgP house-DAT
'home, to my house' (220.1)

(45) a-s pú·t-*ik̓s*
DEI-REF boat-DAT
'into the boat' (220.21)

One might conclude from such examples that [k̓s] appears at the end of the NP and is a postposition. When a modifier is present, however, the dative occurs after that modifier instead of after the noun:

(46) k̓is ay-áy-m ... [cá·ms-t-*ik̓s* s-milhu·dáys]
RES go-INCH-INTR different-ADJ-DAT CSTR-tribe
'so he would go to different tribes' (34.15)

(47) k̓is ay-áy-m [qahál-*k̓s* s-ɬəyá·cit]
RES go-INCH-INTR different-DAT CSTR-village
'so he would go to a different village' (34.22)

(48) xám̓-t-*ik̓s* lahwí·
one-ADJ-DAT place
'to one place' (46.11)

In an NP where the head noun is preceded by a possessor NP, the dative comes after the possessor:

(49) ku-hám tá·-*k̓s*-itx[2] c-qá·nu·-k̓
DEI-your father-DAT-PL POSS-sweathouse-POSS
'to your fathers' sweathouse' (150.29)

Note that in (49) the movement is toward the sweathouse, not 'your fathers', even though the dative comes after the latter element.

There is no example of a modified noun with both a determiner and the dative present. This is not terribly surprising since neither the determiner nor the dative is found very frequently with a modified noun in the first place. Still, due to this gap in the data we cannot be absolutely certain that in an example such as (26) the dative would come after the adjective instead of

after the determiner or even somewhere else. But given the behavior of the dative in (45) and (49), where the determiners are ignored for the definition of 'second position', it seems safe to suppose that the dative would in fact come after the adjective in (26). I will make this assumption in my analysis.

2.1. Adverbs

It is not clear what role adverbs play in the noun phrase. The dative has not been found together with an adverb in attributive position before a noun; the few examples available are with locative adverbials. There the adverb [cá·ma] 'very (much)' seems to be ignored for the placement of [ɣs]:

(50) hí·ɣa [*cá·ma* ní·sɣ-*iɣs*] ay-áy
just very far-DAT go-INCH
'he went very far' (168.9)

But [cá·ma] is also found completely separated from the phrase it modifies, making it unclear where it should be positioned in the structure:

(51) ní·sɣ-*iɣs* hí·ɣa *cá·ma* ay-áy
far-DAT just very go-INCH
'he went very far' (168.15)

The same facts relative to [ɣs] seem true of another adverbial modifier, [xú·si·] 'a little':

(52) *xú·si·* qawxán-*ɣs*
a.little above-DAT
'[he moved] a little higher' (76.35)

Since the adverb in many cases occurs rather freely separated from what it seems to modify (similar to the quantifiers), and since these examples are adverbial and not nominal, I will not attempt to incorporate them into my analysis. A phrase such as 'to the very big house' would be necessary to determine with any certainty the behavior of these adverbs.

2.2. Another second-position noun-phrase clitic

There is a common clitic [awɣ] 'in, inside' which seems to have several possible domains: S, V, and NP. Although it is clearly attested in only one example, it appears that [awɣ] can behave like [ɣs] when it is prepositional:

(53) xám'-t-*awɣ* s-wulí·s
one-ADJ-in CSTR-year
'for one year' (120.26)

This clitic shows up in the same position as the dative, and can be analyzed in the same way.

3. Analysis

I will now offer a formal analysis of the data discussed above. Unfortunately it cannot be pursued with complete thoroughness because the data necessary to check the validity of certain predictions are simply not

available in the existing corpus. Still, it should useful to try to formalize what has been described.

3.1. Klavans' parameters

In the typology of clitics in Klavans (1985), it is possible to specify the behavior of a clitic with three parameters:

P1) *Dominance* - whether the clitic is positioned relative to the initial or final constituent within its domain;
P2) *Precedence* - whether the clitic is positioned before or after that constituent; and
P3) *Phonological Liaison* - whether the clitic attaches phonologically to the preceding or following word (i.e. whether it is an enclitic or proclitic).

Klavans allows the specification of the domain of the clitic (the constituent to which P1 makes reference), including S, V, and N', but does not explicitly integrate this option into her set of parameters; the domain should perhaps be thought of as a fourth parameter, different from the others since it is not a binary choice. Among the eight clitic types possible given the three binary parameters, the dative [ks] is a Type 3 clitic: it encliticizes (P3) after (P2) the initial element of its phrase (P1). Unlike the common second-position clitics which occur in this position under S, however, the Alsea clitic occurs under NP.

There is a potential problem in this description of the placement of [ks]: where do the determiners fit in? Recall from (44) and (45) that they are ignored for the purposes of determining the initial constituent of the NP. If we consider the determiners to be clitics themselves, then they could automatically be ignored by whatever rule places [ks] after the first (nonclitic) constituent of the NP. Note that the determiners would be Type 2 clitics, which procliticize before the first element of the phrase. There is some independent evidence that the determiners are in fact clitics. For example, both the deictics and the referential are found as part of the same stress group as the following full word. The only time stress is marked on a determiner is when it is more than one syllable, in which case it probably reflects the relative stress on the two syllables of the determiner itself - a secondary level of stress which is subordinate to the primary stress of the word to which the determiner clitic attaches.[3] There is no direct evidence for this stress being secondary, but note that while unusual it is not impossible for a clitic to receive stress (Wanner 1978).

The Klavans typology is not completely satisfying as an analysis because it simply describes the position of the clitics without offering a formal explanation of how they got there. I will now propose an analysis which accounts for the behavior of the clitics as well as the overall structure of the noun phrase as described above. Although it is not central to the analysis, I will assume Government-Binding Theory (Chomsky 1981).

3.2. The basic structure of the noun phrase

The deictics, the referential [s], and the possessive pronouns are base-generated in specifier position in the NP. They are created from their

component parts, e.g. [ku] and [s], by the morphology. These determiners are lexically specified as proclitics, so that they must combine with a full word at some point in the derivation.[4]

Adjectives are adjoined to the noun that they modify. This allows for the iteration found in example (28). The adjectival [t] and construct [s] are generated by a structure-sensitive rule similar to that which generates the English genitive: an adjective or noun adjoined to an N takes the suffix [t], and the adjoined-to noun takes the prefix [s]:

(54)
```
   N          N
  / \   ->   / \
 A   N      A-t  s-N
```

Exception must be allowed for those modifiers (such as quantifiers) which allow the omission of one of the affixes.

There is a slight complication due to the fact that when a noun already has the possessive prefix [c] it does not take the construct [s] or referential [s] in addition. This exclusion can be explained naturally by treating [c] as carrying the features [+referential, +construct], thus making either [s] redundant. These features are semantically motivated since a possessed noun is necessarily referential, and is in construct with its possessor (whether phonetically realized as a separate NP or not).

Note that under this analysis all nouns, including those consisting internally of an adjunction structure, must be marked with the construct prefix:

(55)
```
      N
     / \
   A-t  s-N
       / \
     A-t  s-N
```

This structure reflects the data given in (28), where the terminal string comes out as A-t s-[A-t s-N]. Since the rightmost adjective-noun combination is itself a noun, we are not required to say that the first construct [s] is prefixed to an adjective.

As mentioned earlier, one might want to argue for an analysis which equates the referential and construct [s]. For example, there is often no referential [s] before a modifier-noun combination, as in (29), so there is some motivation for saying that the [s] preceding the noun is actually the referential. This is problematic, however, because it is possible to have more than one construct [s] when more than one modifier precedes the noun. If this construct is really the referential then the second instance is redundant - it seems in fact more structural (construct) than meaningful (referential). In addition, the familiar deictic-referential combination appears when a deictic is present, e.g. (26), and this does not affect the presence of the construct. Thus there would have to be some ad hoc rule stating that a deictic preceding a modifier-noun combination takes a redundant referential suffix - even though such a redundant suffix is not used before the possessive [c]. Of course, under my construct analysis it is still necessary to say that

referentiality is not explicitly marked unless a determiner is present, though this is not too unnatural since a modified noun is typically referential anyway. The complexity of the situation is likely due to the origin of the construct [s] as a referential determiner which has been reanalyzed as a simple structural element, with the residual effect that a noun in construct is assumed to be referential.

The ergative proclitic is inserted by a structural rule such as the following (the node IP 'inflection phrase' is equivalent to S):

(56)

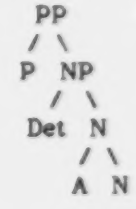
The internal structure of the subject NP is irrelevant to this rule, which always places the [qa] clitic at the beginning of the NP.

Independent pronouns are base-generated in N. They are inherently [+referential] so that if they take a determiner, there will be no referential [s] included (similar to possessed nouns). Like other nouns, they are lexical categories and serve as the head of a clitic group (see below). When a deictic is present it procliticizes, e.g. (5), and the preposition [ɣs] encliticizes, as in (42).

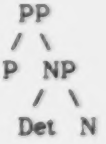
3.3. The clitics

The dative [ɣs] is the head of a preposition phrase; this is desirable because it functions semantically like any other preposition and the parallel structure avoids potential problems in interpretation. This preposition, however, is lexically marked as enclitic, so it must at some point attach to the end of a word. The following structures are posited for modified and unmodified nouns:

(57a)



(b)

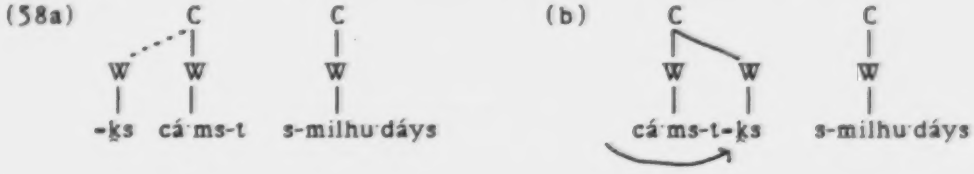


I am adopting from Hayes (1984) the notion of a clitic group, which is defined as a content word (V, N, A) along with the clitics which attach to it. In the simplest and most common case, a clitic attaches to the content word to its left or right with which it shares membership in the greatest number of syntactic categories - i.e. the word which is dominated by the greatest number of nodes which also dominate the clitic. Thus the determiners in (57) will attach to the following A or N, because they share membership in the category NP which is not shared by whatever word may precede the PP in the

sentence. The same is true of the prepositions in (57), which share membership in PP with the following A or N.

The attachment of the determiner to the following word is straightforward; since the determiner is base-generated in front of its chosen host, it need not even be marked lexically as a proclitic. The preposition [ɣs], on the other hand, must be marked as an enclitic, and this specification must be satisfied at the level of Phonetic Form. The preposition chooses its host word in the normal way: according to maximal shared category membership. At PF, however, it moves to the end of the clitic group to satisfy the feature [+after], to use Klavans' term for the precedence parameter.[5]

In the illustration below, W refers to a phonological word, the smallest unit to which the prosodic hierarchy can refer. Each C is a clitic group; every lexical category is automatically the head (host) of a C. Higher levels discussed by Hayes will be ignored here. The preposition [ɣs] is associated with the following C by the principle of maximal shared categories (58a):



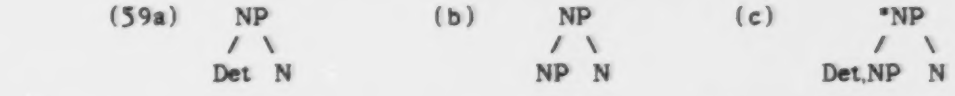
At PF the preposition moves from the left side of the clitic group to the right side, not changing its association but merely its position relative to the host (58b). Note that this movement does not result in crossed association lines since the clitic and its host are associated with the same C node, not adjacent ones. The [i] vowel in the output (46) is inserted by a postlexical rule of epenthesis whose domain is the clitic group.

The movement of the clitic is forced by the [+after] feature. If one wants to have free movement at PF, as in the syntax, then the determiners and similar clitics would have to be lexically marked as [+before] to prevent them from undergoing the same movement. If movement is allowed only when necessary to satisfy feature requirements, then no lexical marking is needed for the simple cases. This same explanation of the behavior of [ɣs] can be applied to the clitic [awɣ] in (53).

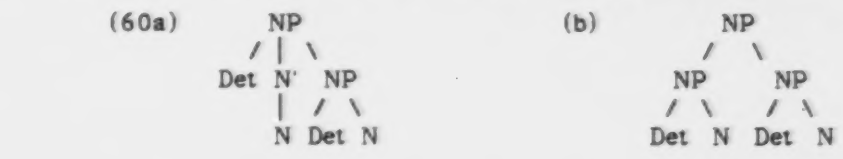
Although this is not an issue in Alsea, Klavans discusses a number of examples of clitics which have divided loyalties: the word which is relevant for the positioning of the clitic (also the one with which it shares the most category membership) is different from the word to which it attaches phonologically. In other words, Hayes' rule of clitic attachment is violated. In Kwakwala, for example, case markers occur before the noun they mark but attach phonologically to whatever word precedes them. I assume that clitics like these (which are fairly uncommon cross-linguistically) are lexically marked as exceptions to the normal method of clitic attachment. For example, the Kwakwala case markers can be specified as always associating with the preceding clitic group, or [+enclitic] in Klavans' phonological liaison parameter. Note that this [enclitic/proclitic] feature is substantively different from the [before/after] feature discussed above; the first marks an

exception to the general rule of clitic attachment, while the second is completely consistent with it and in fact depends on it crucially.

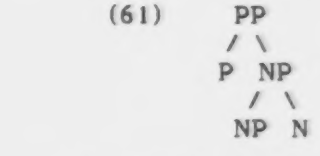
Normally the Alsea determiner is base-generated as the specifier of the NP (59a). I will assume that when a possessor noun precedes the noun it possesses (as in 12), then it occurs as the specifier as well (59b). This explains the apparent lack of cases where the dependent noun and determiner cooccur before the head noun, since the specifier cannot be doubly filled (59c).



When the possessor noun follows the possessed, perhaps as a postposed specifier (60a) or in an adjunction structure (60b), then the determiner of the head is free to occur and both nouns can be determined (as in 14).



The movement of the preposition [ks] to a position after the possessor noun in (49) works in exactly the same way as for the adjective described above, although the syntactic structure is slightly different:



The dependent possessor NP is chosen as host by maximal shared categories, and the clitic undergoes the movement illustrated in (58).[6]

4. Conclusion

I have examined the structure of the Alsea noun phrase and proposed an analysis to account for the behavior of the clitic [ks] while treating it as a preposition. The dative is lexically marked with the feature [+after] so that, due to the effect of the rule of clitic assignment at the level of PF, the preposition is forced to move to the end of the clitic group. The determiner clitics are also easily accounted for in this framework.

NOTES

1 I am grateful to Outi Bat-El, David Cline, and Jack Martin for discussion of the ideas in this paper. All errors are of course my own. Data are from Frachtenberg; numbers in parentheses indicate the page and line from which the example is taken: those preceded by a 'j' are from Frachtenberg (1917), otherwise (1920). The transcription has been partially phonemicized according to the conclusions in Buckley (1989). This paper is based on work supported under a National Science Foundation Graduate Fellowship. A portion of this paper was presented at the LSA annual meeting in New Orleans on December 30, 1988. The following abbreviations are used here:

ADJ	adjectival	INCH	inchoative
CMPL	completive	INTR	intransitive
COLL	collective	PASS	passive
CSTR	construct	PL	plural
DAT	dative	POSS	possessive
DEI	deictic	REF	referential
DSTR	distributive	REFL	reflexive
ERG	ergative	RES	resultative
FUT	future	TR	transitive
HAB	habitual	TRL	transitional

For pronouns:

1,2,3	first, second, third person
sg,du,pl	singular, dual, plural
S,O,P	subject, object, possessive

2 The plural clitic [tx] is a second-position sentential clitic, normally marking the subject 'they', which here marks the plurality of the word 'father'. Its location outside the dative clitic is apparently due to its origin outside the noun phrase.

3 Frachtenberg often marks stress on monosyllabic words belonging to a major lexical category, so the lack of stress on most determiners cannot be attributed simply to their having only one syllable.

4 I have written the determiners as separate words for the sake of clarity and also consistency with Frachtenberg. Phonologically, however, they are clitics.

5 The term 'enclitic' would perhaps be more standard here but since Klavans uses that for the phonological liaison parameter I have kept her terminology to avoid confusion.

6 After the presentation of this paper at LSA, Steve Anderson referred me to his description of determiners in Kwakwala which occur in second position in the NP (Anderson 1984). It was also pointed out that the ancient Indo-European languages have such clitics, as seen in the Latin magna cum laude. See also Radanović-Kocić (1988) for a discussion of the possessive dative in Serbo-Croatian, and Leslau (1967) for the definite article in Amharic.

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LINGUISTIC BORROWING IN CHICANO LITERATURE

Eliverio Chávez

Abstract: A preliminary investigation was conducted in order to ascertain the extent of linguistic borrowing in Chicano literature. The findings indicate the use of loanwords, loanblends, and loanshifts, but no examples of hybrid creation and grammatical borrowing. The use of loans correlates with characters marked by negative social qualities, which expresses a common attitude toward the use of nonstandard forms. The results help to define the relationship between Chicano literature and Chicano sociolinguistics.

Languages in contact inevitably result in linguistic borrowing, and the interchange of lexica between English and Spanish has been the focus of numerous studies (Fraser 1975). The fact that this phenomenon is also manifest in Chicano literature is not unexpected. In truth, many Chicano authors are acutely aware of the manifestations of linguistic hybridism which result in heterogeneous forms such as code-switching and linguistic borrowing. As a consequence, some Chicano writers have tried to imitate these phenomena through a fiction of mimesis (Keller 1979). The extent to which these writers are able to duplicate the speech patterns of the speech community is based on their knowledge of linguistics as well as their perception of linguistic norms within the Chicano community. Admittedly, some Chicano authors use loans purely for stylistic purposes, which do not conform to the sociolinguistic norms of the community. However, the production of these aberrant forms indicate that the linguistic process is viable even though the product is atypical.

With respect to the sociolinguistic norms of a speech community, there are lexical classes which are more susceptible to borrowing. There is a consensus amongst linguists that members of the open class such

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as nouns, verbs and adjectives are more readily borrowed than those of closed classes such as pronouns, conjunctions and prepositions. There is also a general agreement that nouns are the most frequently borrowed class (Bynon 1979). For example, Higa (1979), in a study which investigated the parts of speech comprising English loanwords in Japanese, reports that of the 5,018 English loans which were studied, 4,606 or 91.8 percent were nouns. A study by Espinosa (1917) on the influence of English on New Mexican Spanish also supports the notion that nouns are more frequently borrowed. In his study nouns comprise 69.2 percent of the total while verbs comprise 11.4 percent and adjectives, 7.1 percent.

The classification of loans based on types has been treated by various linguists; for example, Higa (1979) formulated a typology of word-borrowing based on the relationship between the dominant and subordinate culture as well as national borders. Weinreich (1963), who conducted research on problems related to the psychological and sociocultural setting of bilingualism and language contact, has suggested various ways in which loanwords can affect the receiving lexicon. However, the standard of excellence in the description and classification of linguistic borrowing is undoubtedly, the study by Haugen (1950), and it is Haugen's classification which will serve as a basis for the analysis of linguistic borrowing in Chicano literature in the present study.

Definition of Operational Terms

The following outline will provide a condensed treatment of Haugen's analysis and will serve as a definition of operational terms. It should be noted that Haugen's treatment has been revised in the category of grammatical borrowing.

I. ANALOGUE: lexical terms that are interlingually similar. (ex. Span. carta and Eng. card)
   A. Homophone: the interlingual similarity is purely phonetic. (ex. Span. ganga 'bargin' and Eng. gang)
   B. Homologue: the interlingual similarity is purely semantic. (ex. Span. peso and Eng. dollar)

II. LOANWORD: lexical terms that are characterized by semantic importation and complete substitution of native phonemes.

(ex. SW Span. espauda borrowed from Eng. yeast powder)

III. LOANBLEND: lexical terms that exhibit morphemic substitution as well as morphemic importation.
   A. Blended Stem (ex. espeletrear in which the stem is comprised of Eng. spell and Span. deletre-a-r)
   B. Blended Derivative (ex. baquear in which the term is derived from Eng. to backup and the Span. morphemes a and r: the thematic vowel and marker of infinitive respectively)
   C. Blended Compound (ex. Glenrío which consists of components that are words: Eng. glen and Span. río)

IV. LOANSHIFT: lexical terms and phrases that demonstrate morphemic substitution and semantic importation as well as functional shifts of native morphemes.
   A. Loan Translation: compound substitution which results in the translation of the constituents of a compound term. (ex. escuela alta which is a translation of Eng. high school)
   B. Syntactic Substitution: morphemic substitution which extends to complete phrases. (ex. tener buen tiempo from Eng. to have a good time)
   C. Semantic Loan: native terms in which semantic importation is the only indication of borrowing.
      1. Loan Homonym: terms in which the borrowed meaning has nothing in common with the original meaning. (ex. Span. yarda: the original meaning is a unit of length equal to three feet; the borrowed meaning is an area or plot of grass at the rear or in front of a house or building)
      2. Loan Synonym: terms which are characterized by semantic overlapping between the original meaning and the borrowed meaning; the semantic importation adds a new shade of meaning to the native morpheme. (ex. Span. lectura: the original meaning is 'reading'; the borrowed meaning is 'lecture')

a. Semantic Displacement: terms from the native language are applied to novel cultural phenomena that are similar to cultural phenomena in the native culture. (ex. Span. dos reales displaces Eng. quarter)
b. Semantic Confusion: terms in which semantic distinctions in the native language are lost through the influence of partial interlingual synonymity between the donor language and the borrowing language. (ex. Span. librería imports semantic properties from Eng. library producing semantic confusion as librería is substituted for biblioteca)

V. HYBRID CREATION: terms which are created within the borrowing language due to contact with a foreign culture, but are not imitations of a foreign model in that no model exists in the foreign language. (ex. Yaqui liósnóoka 'to pray' from Span. Dios and Yaqui nóoka 'speak')

VI. GRAMMATICAL BORROWING: changes in syntax due to influence and interference from a foreign language.
A. Intraphrasal loans (ex. mi tío's cama from Eng.possessive construction my uncle's bed)
B. Interphrasal loans (ex. No tengo nadie que estudiar con. from Eng. I don't have anyone to study with. This loan interferes with the embedding of a relative clause.)

Linguistic Analysis

The following analysis of Chicano literature includes works which were written primarily in Spanish and/or works in which there was a deliberate effort by the author to imitate the nonstandard linguistic forms generated by the Chicano speech community. As a consequence, no effort was made to examine literature in which there was a conscious attempt to utilize educationally prescribed lexical items and syntactic constructions.

All the writers included in the analysis are considered to be major authors in their respective genre (Bruce-Novoa 1980; Tatum 1982). Two of the three novelists included in the present study were winners of an annual literary prize, the Premio Quinto Sol: Tomás Rivera in 1970 for ...y no se lo tragó la tierra, and Rolando Hinojosa in 1972 for Estampas del valle y otras obras. Both of these works were analyzed for the present study. The third novelist, Miguel Méndez M., in addition to being one of the leading novelists is also one of the masters of the Chicano short story (Tatum 1982). His collection of short stories, Tata Casehua y otros cuentos, and his novel, Peregrinos de Aztlán, are both included in the analysis. Two poets are represented in the present study: Alurista (Alberto Urista) and Sergio Elizondo. Both are considered to be major social poets (Tatum 1982). The poetic works included in the examination of borrowing are Alurista's Floricanto en Aztlán, one of his earlier books of poetry, and Elizondo's two books of poetry, Perros y antiperros and Libro para batos y chavalas chicanas. The playwright who was chosen for the analysis, Luis Valdez, is undoubtedly the most influencial dramatist in the development of Chicano theater (Huerta 1982). The book of plays examined in the present study, Actos, is a compilation of dramatic forms called "actos" and represents various works by Luis Valdez and other members of El Teatro Campesino, a Chicano theater group founded by Valdez.

With regard to linguistic borrowing, all the authors included in the analysis utilize various forms of loans. However, two writers are especially noted for their use of nonstandard lexical constructions: Miguel Méndez M. and Alurista. Méndez uses a complicated blend of standard Spanish, Mexicanisms, pachuquismos, and a mixture of Spanish, English and Yaqui. In a similar manner, Alurista has developed a unique style of poetry with his combination of English, Spanish, and barrio slang (Tatum 1982). In essence, the authors and works in the present analysis offers a representative sample of linguistic borrowing in Chicano literature.

A preliminary examination of the literature indicates that Chicano authors use a subsantial number of loanwords, loanblends, and loanshifts; however, hybrid creations and grammatical borrowings are virtually nonexistent. With regard to loanwords, this category was utilized by practically every author whose work was analyzed, and loans of this type were present

in every literary genre. A few examples include fonis < funnies, i.e., comic strips; dompe < dump; trocas < trucks (Rivera 1976: 9, 17, 83), birria < beer; güaino < wino (Méndez 1979: 23, 45), lonchi < lunch (Méndez 1980: 89), cherifes < sheriffs (Elizondo 1977: 28), yaque < jack (Hinojosa 1973: 23), files < fields; esteche < station; tíquete < ticket (Valdez 1971: 39, 142).

Loanblends are also well represented in Chicano literature. The most numerous subcategory is blended derivatives with substantially fewer blended compounds and no examples of blended stems. Some examples of blended derivatives are troquitas < truck+itas; dompero < dump+ero (Rivera 1976: 9, 18), huáchame < watch+a+me; chaineo < shine+o (Méndez 1979: 23, 90), honito < honey+ito (Valdez 1971: 58). Blended compounds were found in poetry and drama. With respect to poetry, most terms were produced in works by Alurista; for example, pizcafire < pizca+fire (1976: 52). Valdez also generated blended compounds such as tacobender < taco+bender (1971: 106). This preliminary analysis of Chicano literature produced no examples of blended stems such as espeletrear < spell+deletrear, although such forms have been reported by linguists (Craddock 1976).

Loanshifts are also used extensively by Chicano authors. Examples of loan translations include perro caliente < hot dog, and perro de chile < chili dog (Méndez 1979: 35). Semantic loans are represented by both loan hononyms such as ganga < gang (Elizondo 1972: 42), and loan synonyms such as principal < high school principal (Rivera 1976: 14). Within the subcategory of loan synonym there are examples of semantic displacement such as pesos < dólares (Rivera 1976: 110), but there are no examples of semantic confusion, a category well documented in linguistic studies (Craddock 1976; Haugen 1950), and which includes terms such as librería < library. Likewise, within the subcategory of loanshifts there are no examples of syntactic substitutions like responder para atrás < to talk back, which have also been reported in works by linguists (Lance 1975: 50).

Other categories which were not produced by this preliminary analysis are hydrid creation and grammatical borrowing. It is not surprising that there are no examples of hybrid creation since this type of loan is relatively rare, although Haugen does provide some terms such as liósnóoka 'pray' which is composed

of the loanword liós 'God' from Span. Dios and Yaqui nóoka 'speak' (1950: 220). However, grammatical borrowing, such as mi tío's cama < my uncle's bed, and que yo no sé nada de < that I don't know anything about, is a much more common phenomenon which has been documented in works dealing with linguistics (Hensey 1976) and education (Lastra 1975). As a consequence, one would expect this type of loan to be utilized by Chicano authors.

Conclusion

The preceding analysis of linguistic borrowing in Chicano literature gives a clear indication of the types of loans that are utilized by Chicano authors, and it also gives an indication of the motivation for their use. For example, loans used by Méndez in Peregrinos de Aztlán (1979) are always generated by marginal characters, i.e., those that are marked by psychological instability due to the incorporation of habits and values from two divergent cultures and by incomplete assimilation in either (Stonequist 1961). Thus, one would have to infer from the low social status of the characters that loans are symbolic of negative social and moral qualities. In fact, the social status of the speaker and the utilization of hybrid forms have been shown to be concomitant factors (Vallejo 1976). The attitude demonstrated by Chicano authors is not unlike that displayed by language purists who feel that the impact that English has had on the use of Spanish is basically negative and represents an impoverishment of Spanish (Mallo 1954; Granada 1974).

In its most basal sense, linguistic borrowing in Chicano literature is a natural manifestation of language contact as well as cultural contact. However, its use is also a stylistic device which is inherently a statement of language attitudes. In essence, the exclusive use of linguistic hybridism by marginal characters symbolizes a perception by Chicano authors of the low social status of the marginal man, and the negative quality of loans in the Chicano vernacular.

Overall, this preliminary linguistic analysis of Chicano literature has helped to define the parameters and manifestations of language contact as expressed by Chicano authors. In general, the use of loans is quite limited, in fact, they represent less than 1 percent of the total lexical output. There was a greater use of code-switching and barrio slang than linguistic

borrowing. Unexpectedly, the linguistic forms they use are at variance with forms reported by linguists. This discrepancy may reflect a lack of knowledge of linguistics or a deliberate exclusion of the more aberrant forms. At any rate, the results help bring about a better understanding of the interrelationship between Chicano literature and Chicano sociolinguistics.

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KOASATI COMPARATIVE CONSTRUCTIONS

Geoffrey Kimball

Abstract: Recent work by Hardy and Davis (1988) on comparatives in Alabama has suggested similar work for the related language Koasati. Although the morphemes used for comparative constructions in Koasati are identical to the ones used in Alabama, the syntax of such constructions differs widely between the two languages. Furthermore, the usage of comparative constructions in texts suggests that the concept of "comparison" to the Koasati mind is quite different from that understood in English.

Introduction

Hardy and Davis, in the 1988 article "Comparatives in Alabama," have sketched out the complex system for making comparisons in that Muskogean language. Koasati,[1] the Muskogean language most closely related to Alabama, has a system parallel to that of Alabama; however, although the actual morphemes are almost identical, the syntax and usage are strikingly different from that of Alabama.

Koasati Comparative Formation

In contrast to Alabama, where there are two different morphological patterns for forming comparative constructions (one using the prefix *ist-* and other the verb *mayya*), there is only one morphological pattern in Koasati. A comparative is formed by joining the adjectival word (all of which are verbs) to the verb ***má:yan*** 'to be more' with the connective suffixes *-k* or *-t*,[2] as in the following examples:

(1) ca-pálki-k im-má:ya-l-o-V̨
1sstat:subj-BE:FAST-ss 3dat-BE:MORE-1ss-be-phr:term[3]

/capálkik immá:yalǫ/

'I am faster than he.'

(2) ca-pálki-t im-má:ya-l-o-V̨
1sstat:subj-BE:FAST-conn 3dat-BE:MORE-1ss-be-phr:term

/capálkit immá:yalǫ/

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'I am fastest.'

As may be observed, the dative prefix *im-* added to the verb *má:yan* cross-references the noun to which the comparison is made; in addition, the suffix *-k* on the adjective marks the comparative degree, while the suffix *-t* marks the superlative. This construction is parallel to the Alabama comparative construction with the verb *mayya*, which, however, is used only for more complex constructions, as in the following (Hardy and Davis, 1988:222, example 27a):

(3) tii-ka-k kafi-n im-mayya-n isko-l-o
tea-For-K coffee-N IIIs-more:than-N drink-1Is-Asp[4]

'I drank more tea than coffee.'

Note the following Koasati parallels:

(4a) kafi-k im-má:ya-n ísko-l
COFFEE-subj 3dat-BE:MORE-sw DRINK-1ss

/kafík immáyan ískol/

'I drink more coffee than he does.'

(4b) kafi-k tíyka im-má:ya-n ísko-l
COFFEE-subj TEA 3dat-BE:MORE-sw DRINK-1ss

/kafík tíyka immá:yan ískol/

'I drink more coffee than tea.'

At this point a major difference between the two languages becomes apparent. In Koasati, the verb *ma:yan* simply means 'to be more;' in Alabama *mayya* means 'to be more than.' The Koasati dative prefix *im-* covers the semantics of the English comparative conjunction 'than,' while in Alabama the semantics of 'than' are included in the verb itself, leaving the dative prefix free for other uses. In addition, the Koasati dative prefix, in the absence of other information, by default refers to an animate noun. Furthermore, the dative prefix is more closely linked to the number of the referent in Koasati than it is in Alabama. This becomes apparent when the standard of comparison is a first or second person.

Alabama:

(5) Roy-ka-k isn-o-n im-mayya-n cha-choksonka-ti
Roy-For-K you-O-N III3s-more:than-N II1s-kiss-Asp

'Roy kissed me more than he kissed you.' (Hardy and Davis, 1988:222. example 28a)

Koasati:

(6) an-ná:ni-k ca-coksó:ka-k cim-má:ya-t
1sposs-MAN-subj 1sobj-KISS-ss 2sdat-BE:MORE-Past

/anná:nik cacoksó:kat cimmá:yat/

'My husband kissed me more than he kissed you.'

In the Alabama example, the dative singular pronoun prefix (III3s) cross-references a phrase rather than a noun: "What is compared here is the activity 'Roy kissing me' with 'Roy kissing you.' The III3s object agreement on the degree verb in (28)[(5)] reflects the clausal object 'Roy('s) kissing you.'" (Hardy and Davis, 1988:223). In Koasati, the comparison is made at the word level, using the second person singular dative pronoun: "My husband kissed me, and it was more than (he kissed) you." In Koasati, clause-level comparatives do not occur.

Another point of difference is the use of the Alabama marker of peripherality, *ist-*, with the verb *mayya*. There is an elaborate distinction in Alabama between the roles of participants in a narrative event as to whether both are directly involved in the narrative event, or whether one is central and the other peripheral. The prefix *ist-* is used to disambiguate these roles, as in the following two examples from Hardy and Davis (1988:225):

(7) Sali-k okɬipaspa ayamp-o-k maɬa-n ist-im-mayya-n
Sally-K clay pot-O-K Martha-N IST-III3s-more-N

Ø-ischoop-o[5]
3/3-sell-Asp

'Sally sold more pots than Martha.'

(8) Sali-k okɬipaspa ayamp-o-k maɬa-n im-mayya-n
Sally-K clay pot-O-K Martha-N III3s-more-N

Ø-ischoop-o
3/3-sell-Asp

'Sally sold pots for more than Martha.'

In Koasati, such disambiguation is done lexically, rather than morphologically, as shown in the following two examples, which are parallel to the Alabama examples above:

(9) asá:la-n ca-tacakkí im-má:ya-n scó:pa-t
BASKET-obj 1sposs-BROTHER 3dat-BE:MORE-sw SELL-Past

ca-fonó:si-k
1sposs-SISTER-subj

/asá:lan catacakkí immá:yan scó:pat cafonó:sik/

'My sister sold more baskets than my brother.'

(10) asá:la-n ca-tacakkí acíhba-k
BASKET-obj 1sposs-BROTHER BE:EXPENSIVE-ss

im-má:ya-n scó:pa-t ca-fonó:si-k
3dat-BE:MORE-sw SELL-Past 1sposs-SISTER-subj

/asá:lan catacakki acíhbak immá:yan scó:pat cafonó:sik/

'My sister sold baskets for more than my brother did.'

Not only is the lexical item *acíhban*, 'to be expensive,' used to disambiguate the two sentences, but the syntax differs markedly from the parallel Alabama constructions. Alabama preserves the more usual order of Subject, Object, Indirect Object, and Verb, while Koasati moves the Subject to a position after the Verb. This is the only word order that is considered acceptable to Koasati speakers; if the subject is moved to the head of the sentence, the utterance is then rejected as ungrammatical.

A further comparison in this regard is of interest. The following two examples are Hardy and Davis's (34) and (35)(1988:226):

(11) holikfa-n ayamp-o-n im-mayya-n ischoopa-l-o
shirt-N pot-O-N III3s-exceed-N sell-I1s-Asp

'I sold more shirts than pots.'

(12) holikfa-n ayamp-o-n st-im-mayya-n ischoopa-l-o
shirt-N pot-O-N IST-III3s-exceed-N sell-I1s-Asp

'I sold shirts for more than the pots.'

The following are semantically parallel Koasati examples:

(13) asá:la-k im-má:ya-n scó,l,p fitolbá
BASKET-subj 3dat-BE:MORE-sw SELL,1pls(IB), FAN

/asá:lak immá:yan scólp fitolbá/

'We sell more baskets than fans.'

(14) asá:la-k acíhba-k im-má:yan
BASKET-subj BE:EXPENSIVE-ss 3dat-BE:MORE-sw

scó,lp fitolbá
SELL,1pls(IB), FAN

/asá:lak acíhbak immá:yan scólp fitolbá/

'We sell more baskets than fans.'

In addition to the Koasati lexical disambiguation, a notable difference between the constructions in the two languages is the use of nominal clauses. In Alabama, where the comparison is made at the clausal level, both nouns are in the accusative case as objects of the verb *iscoopa* 'sell;' and the choice of which noun to which the comparison refers is marked by word order. In Koasati, on the other hand, the clause "baskets are more than fans" is the object of the verb *scó:pan*. The comparisons is made lexically, within the clause, so that the noun *asá:la* is in the nominative case, and the noun *fitolbá*, being cross-referenced by the dative prefix, is in the autonomous case, and case relations, not word order, indicate the comparison being made. A more literal rendering of (11) and (13) indicates the great difference between the constructions in the two languages:

(11a) I sold shirts and pots, shirts being more (in number).

(13a) The baskets that we sell are more (in number) than the fans.

Koasati and the Alabama Simple Comparative

The simple Alabama comparative is formed by the prefix *ist-* followed by the dative prefixes, all prefixed to the modifier, as in Hardy and Davis's example (6)(1988:211):

(15) Filip=ka=k alan-ka-n ist-im-ϕ-cho=h=ba=hci[5]
Philip-For-K Alan-For-N IST-III3s-I3s-big=Ints=big-Asp

'Philip is bigger than Alan.'

In Koasati, this construction does not occur in the elicitation of comparative constructions; only forms with the verb *má:yan* are given. However, while working through a series of Koasati texts I collected, a parallel construction was found. This is given in the following example:

(16) sawá íl-ka-V́hco-k katí yámmi-má:mi-V́hci
RACCOON 1pls(1A)-SAY-habit-ss CAT BE:LIKE-dubit-prog

ilhicá-k akkámmitik katí
APPEARANCE-subj BE:THUS-conseq CAT

st-in-có:ba-V́hci
instr-3datBE:BIG-prog

/Sawá ilkáhcok, katí yámmimáhci ilhicák. Akkántik, katí stinco:báhci./

'We say "raccoon;" its appearance is like a cat. But this being so, it is big with regard to a cat.'

Although the temptation is to translate *katí stinco:báhci* as 'it is bigger than a cat,' to do so would be to violate the semantics of the language. The instrumental prefix *st-* indicates that there is a relationship taking place between the actor of the verb and something else, and the dative prefix *im-* indicates that a third person is that with which the relationship is taking place. The noun to which the dative prefix refers must be in the autonomous case; here, that noun is *katí*. The instrumental prefix combined with the dative prefix and the verb means 'with regard to X, it is Y,' and does not have a comparative meaning. A further example will clarify this assertion.

(17) nas-ho-ca-mánka-V́hco-,V́?V́,to ká:ha-:p opá-k
WHAT-distr-1sobj-CALL-habit-,Q,-IIIPast SAY-subj OWL-subj

támka st-im-mikkó mikkó-k
DARKNESS instr-3dat-BE:KING(nominalized) KING-subj

ómm-o-V̨ ká:ha-:s st-im-míkko-V́hco-k óm
BE-be-phr:term SAY-IPast instr-3dat-BE:KING-habit-ss BE

ho-ká:ha-:fó:k-on ho-ci-mánka-V́hco-k ká:ha-:fó:k-on
distr-SAY-when-sw:foc distr-2sobj-CALL-habit-ss SAY-when-sw:foc

cissí-k
MOUSE-subj

/"Nashocamankahcó?tó?" ká:ha:p opák. "'Támka stimmikkó. Mikkók ómmq,' ká:ha:s. 'Stimmikkóhcok óm,' hoká:ha:fó:kon hocimankáhcok," ká:ha:fó:kon cissík./

"What is it that everyone calls me?" said Owl. "'King of Darkness. He must be a king,' they say. 'He is king with regard to it [darkness],' they call you when they speak," Mouse said.

The verb here is *míkkon* 'to be a chief or king.' It is derived from the noun *mikkó*, and semantically can take no comparison, as in English, where one cannot be *more king or *most king. However, this verb can take the same kind of instrumental prefix and dative prefix compound that an adjective like *có:ban*, 'to be big,' can. Thus, the following two constructions, taken from the two previous examples are semantically parallel:

(18a) katí st-im-có:ba-V́hci
CAT instr-3dat-BE:BIG-prog

'It is big with regard to a cat.'

(18b) támka st-im-míkko-V́hco-k óm.
DARKNESS instr-3dat-BE:KING-habit-ss BE

'He is king with regard to darkness.'

This construction, although parallel in morphology to Alabama, is in fact not a true comparative construction. Nonetheless, the examples point out the way in which a construction which relates two nouns to one another could change to refer to a comparison rather than to a relation.

Use of Comparatives in Koasati

With the elaborate comparative constructions available for use in the Koasati language, it comes as a surprise to find that, outside of conversation, comparative constructions are extremely rare; only about a dozen examples were recorded in hundreds of pages or texts. Why is this? It turns out, not that the Koasati do not make comparisons, but that they prefer to make comparisons of equality, rather than the comparisons of inequality that are sot typical of English. When a Koasati speaker intends to make a comparison, what she does is to make an equivalency between two items, and then to continue on, pointing out the differences. The following are a few of the numerous examples of this kind of comparison that can be found:

(19) opá yámmi-V́hci akkámmi-tik cokí:bo:si-V́hci
BARRED:OWL BE:LIKE-prog BE:SO-conseq BE:SMALL-prog

/Opá yáhci, akkántik cokí:bosci./

'It is like a barred owl, but it is small.'

(20) sakihpá ká:ha-li-V́hco-k ho:cí:fo-li-:k ilhicá
MINK SAY-1ss-habit-ss NAME-1ss-subjunc APPEARANCE

konó yámmi-V́hci akkámmi-tik
SKUNK BE:LIKE-prog BE:SO-conseq

pa:-hát-hí kko-t
loc-BE:WHITE-3neg(IIIA)-conn

/"Sakihpá," ká:halí hcok ho:cí:foli:k, ilhicá konó yáhci, akkántik pa:háthí kkot./

'I say, "mink,'when I name it; its appearance is like a skunk, but there is no white on its back.'

(21) yokbonó-p lahkó cobá yámmiV́hcon ónk
MOLE-new:top RAT BIG BE:LIKE-habit-sw BE(intrans)

akkámmi-tik ihá:ni-hayó í:sa-t
BE:SO-conseq EARTH-iness DWELL(pl)-conn

yomáhli-V́hcon ónk
GO:ABOUT(pl) BE(intrans)

/Yokbonóp lahkó cobá yáhcon ónk. Akkántik ihanhayó í:sat yomahlí hcon ónk./

'Moles are like large rats. But they go about dwelling within the earth.'

(22) saliklí ká:ha-t ho:cí:fo-tí lka-V́hci
SPARROW:HAWK SAY-conn NAME-1pls(IIICi)-prog

akkámmi-tik biyakká-si yámm-o:si-V́hci ínkǫ
BE:SO-conseq COOPER'S:HAWK-dim BE:LIKE-dim-prog NO

biyakká-p cokí:bo:s-o-t ómm-o-V̨
COOPER'S:HAWK-new:top BE:SMALL-be-conn BE-be-phr:term

akkámmi-tik kom-holcifó saliklí ká:ha-V́hci
BE:SO-conseq 1plposs-NAME SPARROW:HAWK SAY-prog

/"Saliklí," ká:hat ho:cí:fotilkáhci. Akkántik biyakkasí yámmosci, ínkǫ, biyakkáp cokí:bo:sot ómmǫ. Akkántik kǫholcifó "saliklí" ka:háhci./

'We say "sparrow hawk" naming it. But it is somewhat like a little cooper's hawk. Nonetheless our name for it is "sparrow hawk."'

The above examples indicate that the semantic field of comparison is one in which the mechanics of the language are subordinated to the culture of its speakers. Note the differences in what the Koasati says in the following translations, and what English speakers would prefer to say:

(19a) Koasati: 'It is like a barred owl, but it is small.'
English: 'It is smaller than a barred owl.'

(21a) Koasati: 'Moles are like large rats.'
English: 'Moles are like large rats;' or 'Moles are bigger than rats.'

(22a) Koasati: 'But it is somewhat like a little cooper's hawk.'
English: 'But it is smaller than a cooper's hawk.'

Conclusion

Koasati has been shown to have comparative constructions equivalent to those reported for Alabama. However, those comparative constructions differ markedly in syntax from comparable Alabama formations. In addition, a construction which is parallel to the most common of the Alabama comparative constructions has been shown not to have a comparative meaning, but a relational one. Finally, it is of great interest to note that, although Koasati grammar has the power to handle comparative constructions that are semantically parallel to those of English, its speakers prefer not to use that power, but rather prefer to make comparisons of equality, which are more congenial to Koasati thought and culture.

NOTES

1 Koasati is a Muskogean language presently spoken by 300 to 400 people, primarily in Allen Parish, Louisiana, near the town of Elton. My fieldwork on the language began in August 1977 and continues to the present; since August, 1988, my research has been supported by a grant from the National Science Foundation, BNS-8719269.

I would like to thank Bel Abbey, Martha John, and Ruth Poncho for their assistance in learning their language, and also acknowledge the earlier aid given me by the late Nora Abbey and the late Ed John.

2 The use of the suffixes *-k* and *-t* to respectively mark a comparative and a superlative construction is a specialization of their general use. The suffix *-k* is normally used to indicate that the action of two verbs joined by the suffix occurs in a sequence, while the suffix *-t* is normally used to indicate that the action of the two verbs joined by the suffix takes place simultaneously.

3 The terminology used in the glosses of Koasati forms can be found in Kimball (1985:xxiii-xxviii).

4 The terminology used in glossing Alabama forms is that used by Hardy and Davis. A few typographical errors in the printed version of the paper have been tacitly corrected.

5 The null markers for the third person actor are placed before the roots of these verbs apparently for graphic convenience, as cross-reference markers for both the verbs *iscoopa* and *coba* are infixed into the root (Hardy and Montler, 1988).

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UNDERLYING NASALS IN CROW, HIDATSA AND PROTO-MISSOURI RIVER (SIOUAN)

Jack Martin

1. The two Missouri River (Siouan) languages Crow and Hidatsa have allophonic variation in the quality of their resonant consonants that has received inadequate attention in previous studies.[1] Harris and Voegelin (1939) (and subsequently, Robinett (1955) and Matthews (1965)) adopt an analysis of Hidatsa in which the phonemes /w/ and /r/ are used to represent the sounds [b,m,w] and [d,n,r]. Their analysis is subsequently extended to describe similar allophonic variation in Crow by Kaschube (1967). Gordon's (1972) description of pitch accent in Crow differs in writing /m/ and /n/ for the underlying phonemes, but does not provide arguments for the shift in analysis. Here I provide evidence that /m/ and /n/ are the best representations for the underlying resonants in Hidatsa, Crow, and Proto-Missouri River. Establishing the correct phonemic analysis of these sounds is important not only for the synchronic description of these languages, but for reconstruction of the history of these sounds in Proto-Siouan. Sections 2 and 3 deal with the phonemic analysis of resonants in Crow and Hidatsa, respectively. Section 4 concludes with a discussion of the implications of the synchronic analyses for Proto-Missouri River.

2. Crow. Modern Crow has two sets of alternations, [b,m,w] and [d,n,l], exemplified by the following forms:[2]

(1) a. *báa-waši-k* 'I hired (someone)'
dáa-waši-k 'you hired (someone)'
báaši-k 'he/she hired (someone)'

b. *šipít-baa-k* 'I blackened it'
šipít-daa-k 'you blackened it'

c. *día-waa-k* 'I did it'
día-laa-k 'you did it'
día-k 'he/she did it'

d. *koóm-maa-k* 'I quit it'
koóm-naa-k 'you quit it'
koowée-k 'he/she quit it'

e. *dakáaka-m* 'a bird'

f. *dišší-w-ihma* 'I will dance'[3]

Restricting our attention to the verb paradigms in (1a-d), we observe that there are three forms (*baa, waa, maa*) for the first person marker and three parallel forms (*daa, laa, naa*) for the second person marker. From these preliminary data, it appears that oral stops occur initially and after oral consonants, that continuants occur intervocalically, and that nasals occur next to nasals. These alternations are wide-spread in the language, and are not limited to agreement markers. The forms in (1e-f) show that nasals also occur finally and after /h/.

Although modern speakers use [l] intervocalically, older sources (e.g. Lowie 1941) record a flapped [r] (see Kaschube 1967 and below for further discussion). Kaschube (1967) adopts /r/ as the phoneme underlying the [d,n,l] alternations in (1), describing the distribution of the [n] and [d] allophones of /r/ in the following terms (p. 8):

A dental nasal allophone [n] occurs in word initial position when followed by a vowel.

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> It occurs in word final position when preceded by a vowel. It occurs in medial position when preceded by the phonemes /w-/ and /h-/, and occurs in intervocalically situated geminates...A voiced dental stop [d] occurs in free variation with initially positioned [n], and I have transcribed both sounds for the same utterance...

Kaschube's distributional characterization of the [n] and [d] allophones of /r/ can be crudely translated into the following rules:

(2) a. /r/ —> $\left\{\begin{matrix}[n]\\[d]\end{matrix}\right\}$ / # __ V (with [n] and [d] in free variation)

b. /r/ —> [n] / V __ #

c. /r/ —> [n] / {w,h} __

d. /r/ —> [n] / r __

e. /r/ —> [n] / __ r

Kaschube does not mention the following generalizations:

f. /r/ —> [n] / __ w

g. /r/ —> [d] / C __ (where C is not /r,w,h/)

Rule (2f) is needed to account for forms such as *bim-muúss-dee-k* 'he went into the water' in which the underlying /r/ of /wiri/ 'water' is nasalized before a /w/ and then assimilates in place to the following consonant. Rule (2g) is needed to describe the occurrence of [d] in the same word, and in *šipít-daa-k* 'you blackened it' (1b).

There are several minor problems with these rules as stated. First, it is unnecessary to mention 'V' in the environment of (2a) and (2b), since initial and final consonant clusters do not arise in the data. Second, when the sixth rule (2f) is added, we see that /r/ nasalizes in Crow whenever it occurs adjacent to /r/ or /w/. This new fact suggests that the portion in (2c) referring to /w/ and the portion referring to /h/ should be separated, and that rules (2d,e,f) might better be collapsed as a mirror-image rule with the portion in (2c) referring to /w/. Adopting these suggestions, the rules in (2) would be replaced by the rules in (3):

(3) a. /r/ —> $\left\{\begin{matrix}[n]\\[d]\end{matrix}\right\}$ / # __ (with [n] and [d] in free variation)

b. /r/ —> [n] / __ #

c. /r/ —> [n] / $\left\{\begin{matrix}r\\w\end{matrix}\right\}$ __ % (where '%' indicates a mirror-image rule)

d. /r/ —> [n] / h __

e. /r/ —> [d] / C __ (where C is not /r,w,h/)

The rules in (3), while an improvement on the rules in (2), are still suspiciously complex.

Rule (3c), for instance, seems particularly odd: What phonetic motivation would there be

for sequences of the shape /rr/, /rw/, and /wr/ to nasalize as [nn], [nm], and [mn], respectively, and for /r/ to nasalize after /h/ and word-finally? Ordinarily one expects that geminates will be more resistant to phonological processes than nongeminates; Kaschube's phonemic solution requires that geminate /rr/ undergo nasalization intervocalically, while nongeminate /r/ remains oral. Further, she has chosen the allophones with the most restricted distribution as the underlying phonemes.

Rule (3e) is equally suspect. Even granting the possibility that /r/ might harden to [d], neither the class of consonants triggering hardening nor the class of exceptions to hardening generalize well as a natural class. An alternative account that appealed to natural classes of sounds would thus be preferable.

In fact, if /n/ and /m/ are chosen instead of /r/ and /w/ as the phonemes underlying these alternations in Crow, the rules in (3) can be made simpler and more natural. Ignoring (3a) (which differs from the other rules in its optionality) rules (3b-e) can be reduced on this alternative account to the rule in (4):

(4) **Oralization**:
[+nasal] —> [-nasal] / [-nasal,+consonantal] __

Rule (4) oralizes /n/ after oral consonants, except when the preceding segment is /h/.

There are several arguments for replacing (3b-e) with (4). First, (4) is simpler than (3b-e). (4) consists of a single statement, while four statements are necessary in (3b-e). Second, (4) is a phonetically motivated process of assimilation, while there is no obvious motivation for /r/ nasalizing in clusters with /r/ and /w/. Third, the solution in (4) eliminates the unusual condition in (3e). It remains to be seen whether this solution will extend to other allophones, however.

Kaschube goes on to describe the distribution of the [r] allophone of her phoneme /r/:

> A third allophone, [r] occurs only in intervocalic position and sometimes has a flap-like quality which corresponds closely to *d*...

Kaschube mentions that her female speaker uses [l] intervocalically, while her male speakers use [r]. The Crow speakers I have consulted (one male and one female) both use [l], and do not recognize [r], except as an odd spelling in words like *Apsaroke* (a place name now pronounced *apsáalooke* 'Crow'). Because Kaschube adopts /r/ as the underlying phoneme, she need not posit a rule to account for the intervocalic allophone. With /n/ as the underlying phoneme, the following rule will need to be added to (4):

(5) **Crow Lenition**:
[+nasal] —> [+continuant] / V__V

Rule (5) changes /n/ to [l] intervocalically. Rule (5) should probably not be collapsed with rule (4), since the environments are different.

The [b,m,w] alternation exemplified in (1) can be described with the existing rules. The distribution of [m] is virtually identical to the distribution of [n]:

> A bilabial nasal allophone [m] occurs in word-initial position when followed by a vowel, and in word final position when preceded by a vowel. It also occurs in medial position when followed by phoneme /r/; when preceded by phoneme /r/; when preceded by /h/,

and in geminates in intervocalic position. (Kaschube, p. 8)

One should add that [b] also occurs phrase-initially, and that [b] occurs after consonants other than /w/, /r/, and /h/.

As with the alveolar resonant, choice of /m/ as the underlying phoneme instead of /w/ will simplify the rules needed to describe Crow and make those rules more natural. However, the optional rule (3a) needs to be reformulated taking /m/ and /n/ as basic:

(6) **Initial Oralization:**
[+nasal] —> [-nasal] / ##__

Rule (6) oralizes /m/ and /n/ to [b] and [d] phrase initially. For Kaschube's speakers, this rule was optional. My consultants allow some variation, but seem to prefer the oral stops except when the preceding word ends in a nasal. I have therefore made reference to a phrase boundary (##) in (6) rather than to a simple word boundary.

The three rules in (4), (5), and (6) can now derive the same data accounted for by Kaschube's more complex distributional generalizations. Consider, for example, the following derivation involving the word /mini/ 'water':

(7)	/mini+k/	'water'+SENTENCE FINAL
	/mili+k/	(Oralization (4), Crow Lenition (5))
	/bili+k/	(Initial Oralization (6))
	bilík	'it's water'

In (7), the two rules of oralization and the rule of Lenition operate to give the correct form. When the word for 'water' has a vowel preceding it, we see lenition of the consonant, as in the following derivation:

(8)	/mahaa+mini+k/	'spring'+'water'+SENTENCE FINAL
	/mahaa+wili+k/	(Oralization (4), Crow Lenition (5))
	/bahaa+wili+k/	(Initial Oralization (6))
	bahaawilík	'it's spring water'

When preceded by an oral consonant other than /h/, however, /m/ appears as [b]:

(9)	/muluxi+mili+k/	'ice'+'water'+SENTENCE FINAL
	/mulux+mini+k/	(Vowel Deletion)[4]
	/mulux+bili+k/	(Oralization (4), Crow Lenition (6))
	/bulux+bili+k/	(Initial Oralization (7))
	bulúxbilik	'it's ice water'

Finally, when a nasal consonant is adjacent, oralization is blocked:

(10) /ana+mini+nee+hk+uu+k/ LOC+'water'+'go'+CAUS+NOM+SENTENCE FINAL

/an+min+nee+hk+uu+k/ (Vowel Deletion)

/am+min+nee+hk+uu+k/ (Assimilation)[5]

amminneéhkuuk 'it's a ditch'

The derivation of forms involving 'water' in (7-10) thus demonstrates how the rules in (4), (5), and (6) operate naturally to create multiple surface forms if /m/ and /n/ are adopted as phonemes in Crow.

An alternative interpretation of these facts would be to adopt a particular theory of underspecification, and to use the feature [±sonorant] where I have used [±nasal]. The rules in (4), (5) and (6) above would then be restated as follows:

(11) **Desonorization:**
[+sonorant] —> [-sonorant] / [-sonorant, +consonantal] __

(12) **Crow Lenition:** (alternative approach)
[+sonorant] —> [+continuant] / V__V

(13) **Initial Desonorization:**
[+sonorant] —> [-sonorant] / ## __

The following redundancy rule would then apply to nasalize all [-continuant] sonorants:

(14) [+sonorant, -continuant] —> [+nasal]

Such a system would describe the same data, but would do so without giving distinctive status to the feature [±nasal].

I have no objection to this approach, or to the rules in (11-14). I do maintain, however, that the labels /m/ and /n/ are more appropriate for the bundles of distinctive features needed for the Crow resonants than are /w/ and /l/ (or /r/). Specifically, I assume that the sounds [m], [w], [n], [l], [b], and [d] are distinguished as follows:

(15)

	b	*m*	*w*	*d*	*n*	*l*
sonorant	-	+	+	-	+	+
continuant	-	-	+	-	-	+
coronal	-	-	-	+	+	+

The classification of [m,w,n,l] as sonorants, and of [w] as a continuant, is taken from Stevens and Keyser (1989). The classification of [l] as a continuant is based on Chomsky and Halle (1968). This particular assignment of features is useful, as we have seen that [w] and [l] pattern together distributionally in Crow.

Presented in this light (and thus ignoring the feature [±nasal]), we see that [m,n] are distinguished from [w,l] by the feature [±continuant]. Whether to use /m/ and /n/ or else /w/ and /l/ as the cover symbols for the underlying sonorants in Crow then reduces to the following question: Are these segments underlyingly [+continuant] (i.e., more like /w/ and /l/) or are they

underlyingly [-continuant] (i.e., more like /m/ and /n/)?

It should be clear from the data in (1) that the [+continuant] allophones in Crow are the most restricted distributionally. Allophones [w] and [l] only occur between vowels, while the noncontinuants [m] and [n] occur in a wider variety of environments. It will therefore be simpler to assume that the sonorants are *not* [+continuant] underlyingly, and therefore that they become [+continuant] by rule (5) or (12). If the underlying resonants in Crow differ from surface [w] and [l] in not being [+continuant], and if, as assumed on this alternative view, they are distinguished from other consonants by the feature [+sonorant] rather than by the feature [+nasal], then one is still left with the conclusion that the feature values of the underlying sonorants in Crow are more like those of /m/ and /n/ than like those of /w/ and /l/.

3. Hidatsa. In their 1939 analysis of Hidatsa phonemes, Harris and Voegelin describe allophonic variation in Hidatsa resonants as follows (p. 183):

(16) a. /w/ and /r/ are limited to syllabic initial position.

b. /w/ and /r/ are phonetically [m] and [n] in word initial position.

c. /w/ and /r/ are realized as [w] and [r] intervocalically.

d. before /i/, /w/ is occasionally realized as a bilabial fricative, and /r/ is pronounced as one flap "with glottal attack or momentarily held".

Because I lack clear data, I will ignore here and below the bilabial fricative and flap allophones in (16d). The following data from Robinett (1955) provide evidence against (16a):

(17) a. karáwi-c 'he remembers'
karáp 'remember!'

b. hiráwi-c 'he sleeps'
hiráp-he·-c 'he made him sleep'

(18) a. tá·ri-c 'he crosses'
tá·t 'cross!'

b. kí·ri-c 'he looks'
kí·t 'look!'

c. ká·ri-c 'he asks him for it'
ká·t 'ask him for it!'

She describes these new alternations as follows (p. 5):

/w/ and /r/ followed by weak vowels...in the environments in which the vowels are absent...are replaced, respectively, by /p/ and /t/.

She thus follows Harris and Voegelin in assuming that /w/ and /r/ are the phonemes representing the sounds [m,w,p] and [n,r,t].

Matthews (1965:296) adopts the Harris and Voegelin phonemic analysis of Hidatsa, but includes a more detailed description in which word-initial nasalization is claimed to be optional before front vowels.

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Ignoring certain details, these analyses can be restated in rule form as follows:

(19) a. **Initial Nasalization:**
/w,r/ —> [+nasal] / # __

b. **Final Hardening:**
[+sonorant] —> [-continuant] / syllable-finally

Rule (19a) nasalizes /w/ and /r/ word-initially. (19b) changes /w/ and /r/ to stops syllable-finally.

Harris and Voegelin do not justify adopting /w/ and /r/ as the underlying phonemes in Hidatsa. Indeed, it is possible that their analysis might have been different had they been aware of the data in (17-18).[6] In view of the new data in (17-18), it seems reasonable to reconsider their analysis, or at least to find additional justification for it.

It is not possible to adopt /p/ and /t/ as the underlying phonemes in Hidatsa, since, as the following examples from Robinett (1955:3) show, there are near minimal pairs between the voiceless stops and the resonants:

(20) a. tá·ri-c 'he crosses'
b. rá·ruwi-c 'he's still going along'

(21) a. xápi-c 'he lies down'
b. hiráwi-c 'he sleeps'

In (20), /t/ contrasts almost minimally with Robinett's phoneme /r/. Similarly, /p/ contrasts intervocalically with /w/ in (21).

It is possible, however, that [m,w,p] and [n,r,t] are underlyingly /m/ and /n/. If this were the case, the rules for allophony in Hidatsa would be as follows:

(22) a. **Hidatsa Lenition:**
[+nasal] —> [+continuant, -nasal] / V__V

b. **Final Hardening:** (applies after (22a))
[+sonorant] —> [-continuant] / syllable-finally

Rule (22a) lenites and oralizes /m/ and /n/ intervocalically. Rule (22b) (repeated from (19b)) changes [w] and [r] to [p] and [t] syllable-finally. I assume that a rule of final vowel deletion (deletion of Robinett's 'weak vowels') will apply between (22a) and (22b) to create syllable-final resonants.

It would seem that there are crosslinguistic reasons for preferring the rules in (22) to those in (19). Specifically, there is precedence in other languages for /m/ weakening to [w] intervocalically, as in the nearby Numic (Uto-Aztecan) languages. I know of no uncontroversial examples of /w/ nasalizing word-initially in a language. Similarly, oralization of nasals in an oral context is a phonetically motivated rule of assimilation. I can see no phonetic motivation for /w/ and /ɾ/ nasalizing word-initially. Given a choice, then, and in the absence of arguments to the contrary, one would tend to favor the more natural directionality implied by (22a).

These factors would suggest that /m/ and /n/ are basic, and [w,p] and [ɾ,t] derived. While it is probably not impossible that such a system could be reanalyzed so that /w/ and /ɾ/ were the underlying phonemes, I know of no evidence to support such a position. In the absence of such evidence, I will continue to assume what I take to be the more natural rule set in (22). On this analysis, Hidatsa resonants will be analyzed in the same way the Crow resonants were analyzed in section 2. Some example derivations appear in (23-24):

(23)	/miní/	'water'
	/miɾí/	(Hidatsa Lenition (22a))
	miɾí	'water'
(24)	/kanámi/	'remember'
	/karáwi/	(Hidatsa Lenition (22a))
	/karáw/	(Vowel Deletion)
	/karáp/	(Final Hardening (22b))
	karáp	'remember!'

I will discuss the implications of these findings in the next section.

4. Proto-Missouri River. Previous published work on Proto-Siouan has assumed that the resonants in Proto-Missouri River were /w/ and /ɾ/. Thus, Wolff (1950) writes that "Proto-Siouan *m became /w/ in Crow-Hidatsa", that "Crow *n was retained in morpheme initial, but became /ɾ/ medially", and that "in Hidatsa all *n reflexes became /ɾ/" (p. 119).[7] Matthews (1970) avoids explicitly reconstructing the Proto-Missouri River resonants. Instead, he states that "P[roto-]Si[ouan] n, ɾ, and ɾ̂ fell together in C[row-]H[idatsa] and appear as a single systematic phoneme as n in word-initial position, and as ɾ̂ —a dental flap—intervocalically" (p. 100). In his etymologies, however, he uses /w/ and /ɾ/ for both Crow and Hidatsa, so that 'water' is written *wiɾí* in Hidatsa and *wiɾé* in Crow. Rood (1979) follows earlier sources in suggesting that the change of *m and *n into /w/ and /ɾ/ in Crow-Hidatsa is diagnostic of the Missouri River branch of Siouan.

I have argued that /m/ and /n/ better represent the resonant consonant phonemes in Crow, and I have suggested that /m/ and /n/ in Hidatsa would make the rules of allophony more natural in that language. Let us now consider the implications of these findings for Proto-Missouri River. The four cognates in (25) are a sample from those in Matthews (1980). I have listed the Crow forms with sentence final /-k/ in order not to obscure the underlying stem vowel:

(25) EAT (tr.). *Crow* duuší-k; *Hidatsa* núuti.
EAT (intr.). *Crow* baa-luuší-k; *Hidatsa* maa-rúuti.
MOUNTAIN. *Crow* awa-xaawí-k; *Hidatsa* awa-xáawi.
WATER. *Crow* bilí-k; *Hidatsa* mirí.

On the analysis presented in sections 2 and 3, the forms in (25) would be written phonemically as follows:

(26) EAT (tr.). *Crow* /nuuší-k/; *Hidatsa* /núuti/.
EAT (intr.). *Crow* /maa-nuuší-k/; *Hidatsa* /maa-núuti/.
MOUNTAIN. *Crow* /ama-xaamí-k/; *Hidatsa* /ama-xáami/.
WATER. *Crow* /miní-k/; *Hidatsa* /miní/.

Using the comparative method, we arrive at the following Proto-Missouri forms, ignoring accent:

(27) EAT (tr.). */nuuti/.
EAT (intr.). */maa-nuuti/.
MOUNTAIN. */ama-xaami/.
WATER. */mini/.

The Proto-Missouri River phonemic forms can be reconstructed in this case by comparing the phonemic forms in each of the daughter languages. I am assuming the simplest type of reconstruction here, in which no reanalysis has occurred.

The close similarity between Crow and Hidatsa makes it possible to go beyond reconstruction of the phonemic representations in (27) and to reconstruct aspects of their pronunciation. Initial Oralization in Crow seems likely to be an innovation in that language, especially when we consider that the rule applies only optionally in Crow. The pronunciation of [l] instead of [r] also appears to be a very recent development in Crow. Both Crow and Hidatsa agree, however, in oralizing and leniting nasals intervocalically, suggesting that the following rule was present in Proto-Missouri River:

(28) [+nasal] —> [+continuant,-nasal] / V__V

The rule in (28) changes */m/ and */n/ to *[w] and *[r], respectively, in intervocalic position. By (28), the Proto-Missouri River nasals in (27) would have been pronounced as in modern Hidatsa. (In general, Hidatsa is remarkably conservative in comparison to Crow.)

The pronunciation of the nasal phonemes in consonant clusters is less clear. The only clusters involving at least one nasal I have been able to find in Hidatsa are of the shape /m+h/ and /n+h/, realized as [ph] and [th], respectively. I have been unable to find clusters of this type in Crow in most sources on Crow (but see note 3). Conversely, where Crow has clusters /mm/, /mn/, /nm/, /nn/, /Cm/, and /Cn/, I have been unable to locate counterparts in Hidatsa, though the Hidatsa data available to me is limited. I suspect that Proto-Missouri River did not allow nasals to appear in consonant clusters, though Hidatsa and Crow have each relaxed this constraint in different directions.

Using the comparative method, I have reconstructed phonemes */m/ and */n/ in Proto-Missouri River, with oral allophones in intervocalic position. This result is somewhat surprising given the currently accepted reconstruction of Proto-Siouan phonemes, in which the phonemic inventory includes nasal vowels, */w/, and */r/, but no nasal consonants. An anonymous reviewer notes that such a reconstruction is apparently needed on the grounds that

nasality in Proto-Siouan resonants is predictable from the distribution of nasal vowels, while the distribution of nasal vowels is not predictable from the distribution of the resonants. Note, however, that these distributional facts would only constitute an argument for nasal vowel phonemes in Proto-Siouan, and do not, strictly speaking, provide evidence for or against */m/ and */n/ in Proto-Siouan. If Proto-Siouan had a rule oralizing resonants between oral vowels, for example, then */m/ and */n/ would do just as well as */w/ and */r/: Neither oralization of resonants in oral contexts nor nasalization of resonants in nasal contexts would be particularly surprising as phonological rules. However, if */m/ and */n/ are reconstructed for Proto-Siouan, then the only development needed to describe Proto-Missouri River is for the nasal vowels to merge with the oral vowels.

A full investigation of Proto-Siouan resonants would go beyond the narrow confines set for this paper. In the sections above, I presented evidence that /m/ and /n/ are phonemes in Crow, and that the same analysis suggested for Crow can be extended to Hidatsa with little modification. Using the comparative method, I reconstructed */m/ and */n/ for Proto-Missouri River. Further research will be needed to explore the deeper implications of this analysis for Hidatsa phonology (where my data was limited), and to study the implications of these findings for the reconstruction of Proto-Siouan.

NOTES

1. My work on Crow began in 1987 in a field methods course taught by Pamela Munro. I would like to thank April Dillon Storey of Pryor, Montana and John Stewart of Wyola, Montana for help with Crow, the Linguistics Department at UCLA for providing consultant funds, and Pamela Munro, Bruce Hayes, and an anonymous reviewer for important suggestions. I have adopted the general framework of Chomsky and Halle (1968) for this paper.

2. Crow forms that are italicized or that appear in cognate sets in this paper are written in the practical orthography used in Matthews (1981) and Medicine Horse (1987), except that I write *š* and *č* here for the alveopalatal fricative and affricate. The practical orthography is largely phonemic, except that the allophones of [b,m,w] and [d,n,l] are written phonetically. The practical orthography is thus sufficiently detailed to record the phonetic phenomena discussed in this work. Crow has the following obstruent phonemes: /p,t,č,k,s,š,x,h/. The vowels are /a,i,e,o,u/, with phonemic length.

3. Neither April Storey nor John Stewart pronounce /h/ before nasals, so that the /h/ in a word like *ba-líahi-k* 'I breathed' is lost in the future: *ba-lía-m-ima*. For Gordon's speakers, /h/ was apparently pronounced as a voiceless nasal when before another nasal. I have elicited nasals occurring before /h/ in a few instances from John Stewart: *díin-huu-k* 'he came walking' (<*díili-* 'walk'+ *húu-* 'come'); *iškún-hule* 'finger bone' (<*iškulá-* 'finger'+ *hulí-* 'bone'), *ičalatáan-hule* 'toe bone' (<*ičalatáawi-* 'toe'+ *hulí-* 'bone'). Since other authors do not describe these combinations, and since they were elicited rather than volunteered, I have not included a discussion of these forms in the text, though they support a wider distribution of nasals.

4. Crow has a general rule deleting a short vowel morpheme-finally. This rule is blocked where applying it would create impermissible clusters (for example, when it would create the impossible sequence resonant-obstruent).

5. Crow has a rule assimilating /n/ to the place of a following consonant.

6. Robinett (1955a:1) states: "My alignment of allophones into phonemes agrees with that of Voegelin and Harris. However, alternative solutions are possible for certain parts of the phonemic system." From the context of this statement, it appears she is referring to the phonemic treatment of the fortis series, though it is possible she had the resonants in mind as well.

7. Wolff was unable to establish whether Crow had separate /w/ and /m/ phonemes because his Crow data is based on Lowie (1941). Lowie only haphazardly records geminates.

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A SPECIAL WORD IN JAMUL DIEGUEÑO[1]

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Abstract: The word naynaa which occurs in the Jamul dialect of Diegueño has four functions: it is used as an emphatic, as an emphatic marker of coreference between a possessor and the subject of its clause, in the reflexive construction, and as an emphatic same-subject marking device in complex sentences. This paper describes the uses of naynaa in detail.

This is a descriptive paper concerned with the word naynaa which occurs in the Jamul dialect of Diegueño, a Yuman language spoken in the San Diego area. Naynaa has four functions: it is used as an emphatic, as an emphatic marker of coreference between a possessor and the subject of its clause, in the reflexive construction, and as an emphatic same-subject marking device in complex sentences. These uses are illustrated in (1).[2]

(1.a) naynaa k-wi
imp-do
'Do it yourself!'

(1.b) naynaa aa-pu chemlaay
language-dem 3=not=know=pl
'They don't know [how to speak] their own language'

(1.c) naynaa mat m-wiw-a
refl 2-see-Q
'Can you see yourself?'

(1.d) nya'wiw kwexpshiw w-rar naynaat w-saaw-x-it
things nom=green 3-cook 3-eat-irr-purp
'She cooked those vegetables to eat herself'

I will leave naynaa unglossed.

Naynaa has two principal forms: naynaa and naynaat. The final segment t of the latter form is discussed in section 7.2. (Until then, I shall refer to either form of the word as naynaa).

In this paper, I describe naynaa's uses in detail, beginning with its use as an emphatic in section 2. Sections 3, 4, and 5 treat its possessive, reflexive, and same-subject marking uses. (For expository convenience, I use subscripts to distinguish among these different uses). In section 6, I show that naynaa derives

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historically from a verb, and in section 7 I consider the problem of its synchronic status. A few relevant facts about the language are given in section 1.

1. Some Facts about Jamul Dieguẽo

Jamul, like other dialects of Dieguẽo and other Yuman languages, has SOV word order. Its major word classes are noun and verb. Person of subject (and first or second person object) are marked by prefixes on the verb. Lexical pronouns[3] are not required. The case marking of nominals is optional (for discussion, see Gorbet 1976). Clauses may be connected by means of switch reference marking, and/or by various other grammatical devices (see Miller 1988). Relative clauses are head-internal (see Gorbet 1974).

2. Naynaa as Emphatic

Naynaa may function as an emphatic, "emphasizing" the subject of a clause or sentence, by which I mean that it indicates that the subject is somehow remarkable,[4] or that he acted alone, unaided, or voluntarily.[5] This can be seen in (1.a) and in the examples in (2). I will refer to naynaa in this use as naynaa$_1$.

(2.a) wa'aa-t naynaat w-tak
door-sj 3-open
'The door opened all by itself'

(2.b) naynaat akway paa
3=turn 3=arrive
'He came back of his own accord'

(2.c) naynaat Maria meshkwally-pes nyi'miit nya-meshkwally-km ...
Maria 3=bother-adv others=pl when-3=bother-irr=DS
'He always picks on Maria himself, but if other boys pick on her ...'

(2.d) skuuv naynaat w-chaw
broom 3-make
'She made her brooms herself'

naynaa$_1$ usually occurs immediately following the lexical subject, if one is present (cf. 2.a). Otherwise, it may occur sentence-intitially, as in (2.b,c), or it may follow a preposed object, as in (2.d).

The subject is the only argument which naynaa$_1$ can emphasize. (3.b) demonstrates that even when naynaa$_1$ immediately follows an object noun phrase it must be interpreted as emphasizing the subject.[6]

(3.a) naynaa kwaypaay uuniw chuuway
chief 1=speak=to
'I spoke to the chief myself (*himself)'

(3.b) kwaypaay naynaa uuniw chuuway
chief 1=speak=to
'I spoke to the chief myself (*himself)'

Notice that naynaa$_1$ follows the clitic -t, which marks subject case, in (2.a). This clitic is always the last item of the subject noun phrase; naynaa$_1$, which follows it, lies outside of the subject noun phrase.

3. Naynaa in Possessive Constructions

3.1. Possessive Constructions. Possessed nouns take prefixes indicating the person of their possessor:

1st person	Ø	
2nd person	m-	
3rd person	kw-	for most kinship terms
	Ø	elsewhere

In addition, many (usually alienably) possessed nouns are marked with the prefix ny-, which follows the personal prefix.

In a fully specified possessive construction, a noun or lexical pronoun naming the possessor precedes the possessed noun. If a lexical pronoun, it appears in non-subject form; if a noun, it is unmarked for case.

(4.a) ... Evelyn ny-armewil uutak-x tapaa-t ...
Evelyn pos-car 3=caus=open-irr 3=loc=aux-SS
'... he was trying to break into Evelyn's car ...'

(4.b) mat peya-t nyaap ny-wa llyewii
place this-sj my pos-house 3=resemble
'This place reminds me of home (lit. resembles my house)'

When the identity of the possessor is understood, the possessor need not be lexicalized:

(5) ny-wa taa=aama
pos-house 3=send
'They sent him home (lit. to his house)'

When the possessor of one argument of a clause is coreferential with another argument of that clause, the referent is lexicalized at most once. This can be seen in (6), where the possessor of wa is (under this interpretation) coreferential with the lexically realized subject llye'aaw.

(6) ... llye'aaw-pu-t ny-wa-pu akway paa-pes ...
rabbit-dem-sj pos-house-dem 3=turn 3=arrive-adv
'... the rabbit came back home (lit. to his house), but ...'

Possessive constructions which are not fully specified, such as those in (5) and (6) are ambiguous: in appropriate contexts, these examples could be interpreted as 'She sent him to her/my/another's house' and '... the rabbit came back to my/another's house'.

For future reference, note that the fully specified possessive construction constitutes a syntactic constituent: no word or phrase may intervene between the possessed noun and the lexical noun or pronoun functioning syntactically as possessor, and the entire construction may be shifted in certain pragmatic circumstances, for instance in the "afterthought" construction:

(7) kuutuch-pu nye'-iny raw Maria kw-ntachany-pu-t
acorn=flour-dem 3/1-give hab Maria 3-o=sister-dem-sj
'She used to give me acorn flour, Maria's sister [that is]'

3.2. Possessive Constructions with Naynaa. Naynaa may appear in a possessive construction when the possessor corefers with the subject of the clause. (I will refer to naynaa in possessive constructions as $naynaa_2$.) Its appearance makes this coreference explicit and emphatic. The sentences in (8), unlike those in (5,6) above, are unambiguous.

(8.a) naynaa ny-armewil taanawa tewaa
pos-car 3=caus=run 3=loc=aux
'He's driving his own (*other's) car [for once]'

(8.b) iipa-pu-t naynaa ny-wa allymar
man-dem-sj pos-house 3=caus=burn
'That man set fire to his own (*other's) house'

(8.c) naynaa ny-wa taa=aama
pos-house 3=send
'She sent him to her own (*his/*other's) house'

Two facts suggest that the sequence of $naynaa_2$ plus possessed noun comprises a syntactic constituent. First, the entire construction may be shifted in certain pragmatic circumstances, as in (9), a permutation of (8.b).

(9) naynaa ny-wa iipa-pu-t allymar
pos-house man-dem-sj 3=caus=burn
'That man set fire to his own house!'

Second, the subject-coreferential possessive interpretation is possible only when naynaa is adjacent to the possessed noun. Otherwise, the possessor of the noun need not be interpreted as

coreferential with the subject, and naynaa is interpreted as the emphatic $naynaa_1$. This is exemplified by the contrast between (10.a) (where naynaa is adjacent to the possessed noun nywa and where the possessor of nywa is interpreted as coreferential with the subject) and (10.b) (where naynaa is not adjacent to nywa and where this interpretation is not necessary).

(10.a) Maria Tom naynaa ny-wa taa=aama
Maria Tom pos-house 3=send
'Maria sent Tom to her own house'

(10.b) Maria naynaa Tom ny-wa taa=aama
Maria Tom pos-house 3=send
'Maria herself sent Tom to (his/her/another's) house'

4. Reflexive/Reciprocal Constructions

4.1. Reflexives in Related Dialects and Languages. In other dialects of Diegueño, and in the Yuman languages most closely related to it (the California-Delta and River subfamilies), reflexivization and reciprocal action are marked by the proclitic mat. An example from the Mesa Grande dialect of Diegueño (Couro and Langdon 1975:183) is given in (11).

(11) 'ehaa-lly mat '-wuuw
water-in refl 1-see
'I saw myself in the water'

4.2. Reflexives in Jamul Diegueño. In Jamul, too, mat marks reflexive and reciprocal reference. Examples are given in (12).

(12.a) xatt mat aanin
dog refl 3=shake
'The dog shook himself'

(12.b) mat sxwan
refl 1=scratch
'I scratched myself'

(12.c) mat tetekyuut
refl 3=greet=pl
'They greeted one another'

(12.d) Maria Tom mat mespi
Maria Tom refl 3=dislike
'Maria and Tom don't get along, dislike each other'

Often, naynaa appears in reflexive constructions, where it immediately precedes mat, as in (13).

(13.a) naynaa mat wiw
refl 1=see
'I can see myself!'

(13.b) naynaa mat axway
refl 3=kill
'He killed himself'

(13.c) Tom naynaa mat chuuway
refl 3=talk=to
'Tom was talking to himself'

Naynaa does not often appear in reciprocal constructions.

The reflexive constructions in which naynaa regularly appears can be characterized as those naming actions not typically performed on or directed toward oneself. (Acts of seeing are normally directed toward things other than oneself, for instance, and the things one typically kills are game animals.) While naynaa may be omitted from these constructions, versions in which it appears are preferred to versions in which it does not. On the other hand, in reflexive constructions naming actions which are commonly performed on or directed toward oneself (e.g. those exemplified in (12.a,b)), naynaa tends not to appear.[7]

Apparently, then, that when naynaa appears in reflexive constructions it signals that coreference between the subject and object is remarkable. I will call naynaa thus used $naynaa_3$.

A number of verbs which are marked with the clitic mat cannot be considered true reflexives[8] synchronically. Some of these verbs do not occur independently of mat as transitive verbs; examples are mat kiisik 'feel uneasy' and mat uunaap 'play'. Others do occur independently of mat as transitive verbs, but with a difference in meaning. Consider the verb mat chaaxaaya 'be stuck up'. While chaaxaaya is a transitive verb, it means 'brag about'. Furthermore, chaaxaaya has a reflexive form naynaa mat chaaxaaya 'brag about oneself' which differs in both form and meaning from mat chaaxaaya 'be stuck up'. Similarly, mat pshaw 'be careful' differs slightly in meaning from the reflexive form naynaa mat pshaw 'take care of oneself', as does mat nyexiimir 'get hurt' from naynaa mat nyexiimir 'hurt oneself'. In these cases, verbs marked with mat are middle verbs, while verbs marked with naynaa mat are true reflexives.

To sum up, reciprocal reference in Jamul is marked by the clitic mat. Reflexivization is marked by the clitic mat when the fact that the subject acts upon himself is not remarkable. When reflexivity is seen as remarkable, $naynaa_3$ immediately precedes mat. Mat is also used to mark middle verbs, and the cooccurrence of $naynaa_3$ with mat distinguishes the true reflexive forms of certain verbs from their middle forms. I suspect that the use of $naynaa_3$ will

eventually grammaticalize with the result that naynaa mat will be the new marker of true reflexivization in Jamul.

5. Naynaa in Complex Sentences

5.1. Complex Sentences in Jamul. A detailed discussion of complex sentences can be found in Miller (1988); only relevant details are given here. Jamul has, in addition to nominalization and relativization, a variety of clause linking devices. The most versatile and most widely used of these is the switch reference system, a system of morphosyntactic devices which indicate whether the subject of one clause is "the same as" or "different from"[9] the subject of another, usually adjacent, clause. Jamul has two same-subject suffixes, which appear optionally (the degree to which they are likely to appear can be stated in phonological terms; see Miller 1988): -t links clauses in realis constructions and -k links clauses in irrealis constructions. Jamul's different-subject suffixes, which appear obligatorily, are -chm and -m,[10] which link clauses in realis constructions, and -km, which links clauses in irrealis constructions. A variety of other clause-linking devices are found as well, including grammatical words and morphemes which mark purpose clauses, reason clauses, adversative clauses, clauses naming temporally sequenced events ('then' clauses), 'when/if' clauses, and counterfactual conditional clauses. Switch reference marking may appear with all clause-linking devices that are non-suffixal. It does not appear in nominalized complement clauses nor in relative clauses.

5.2. Complex Sentences with Naynaa. Naynaa has a special function in complex sentences (where I will call it naynaa$_4$): it indicates that the subject of one clause corefers with the subject of a another clause in the same sentence.[11] The sentences in (14) exemplify this; in (14.a), the subject of 'fall' must be interpreted as 'Tom', and (14.b) is grammatical only if the subject of 'pregnant' is interpreted as 'Juan'.

(14.a) Tom kw-meyuy llewak nya-w-chaw naynaat w-nall
Tom 3-relative 3=punch when-3-perf 3-fall
'Tom socked his brother and then (Tom/*brother/*other) fell down'

(14.b) Juan-t Maria nya-w-wiw naynaa w-tuuy tewa
Juan-sj Maria when-3-see 3-pregnant 3=loc=aux
'When Juan met Maria, (Juan/*Maria/*other) was pregnant'

Naynaa$_4$ is used only in certain pragmatic circumstances. It has an emphatic function: it not only indicates coreference of subjects across clauses but also connotes that this coreference is remarkable. When the speaker does not wish to connote that the coreference of subjects across clauses is remarkable, naynaa$_4$ does not appear; compare the sentences in (15) with those in (14).

(15.a) Tom kw-meyuy llewak nya-w-chaw skan-t w-aam
Tom 3-relative 3=punch when-3-perf 3=flee-SS 3-go=away
'Tom punched his brother and then ran off'

(15.b) Sally nya-paa w-tuuy tewa
Sally when-3=arrive 3-pregnant 3=loc=aux
'When Sally came here, she was pregnant'

Naynaa$_4$ may be used in all types of complex sentences. 'When' clause constructions were seen in (14). (16-21) below exemplify the use of naynaa$_4$ in constructions involving adversative clauses, reason clauses, 'then'-clauses, purpose clauses, counterfactual conditionals, and simple switch reference constructions. Examples of naynaa$_4$ in relative clauses and nominalized complement constructions will be seen below in (23) and (25).

(16) llye'aaw-pu w-saaw-x tuuyaw-pes naynaat ch'am
rabbit-dem 3-eat-irr 3=loc=aux-adv 3=goof
'He had been all ready to eat the rabbit, but then he (himself/*other) goofed'

(17) shuuyaw map xemaaw kenaat naynaat wi
1=wait=for 1=want neg because 1=do
'I didn't want to wait for her, so I did it myself (*so another did it him/herself)'

(18) xekwall kavaay llyaawacha nyapuum naynaat llyewa
child horse 3=caus=mount then 3=mount
'He put the child up on the horse and then (he/*other) climbed up [behind him]'

(19) nya'wiw kwexepshiw w-rar naynaat w-saaw-x-it
things nom=green 3-cook 3-eat-irr-purp
'She cooked these vegetables to eat herself (*for another to eat)'

(20) xenu xemaaw-pek naynaa w-aa-x-m tuuyaw
3=sick neg-if 3-go-irr-DS 3=happen
'If he hadn't been sick, he (*other) would have gone himself'

(21) Maria gayeet w-pap-t naynaat w-saaw
Maria cookies 3-bake-SS 3-eat
'Maria made cookies and ate them herself (*another ate them)'

Each of the sentences above except (17) contains two clauses, and the subject of the second clause must be interpreted as coreferential with the subject of the first clause. (17) contains three clauses; the subject of its third clause must be interpreted as coreferential with the subject of the second. In (16,17,18,20,21), naynaa$_4$ appears in an independent clause and indicates coreference with the subject of a preceding dependent clause; in (19), it

appears in a dependent clause and indicates coreference with the subject of a preceding independent clause.

5.3. Clause Affiliation. For future reference, I shall demonstrate that naynaa$_4$ belongs syntactically to the clause which contain the closest verb on its right and that it may be surrounded by material from this clause. This is most easily seen in relative clauses.

Diegueño relative clauses are head-internal; for discussion, see Gorbet (1974). In the Jamul dialect, the head of the relative clause may be topicalized by being shifted to the leftmost boundary of the relative clause. This is exemplified in (22.b); compare (22.a) where the head has not been topicalized. (Relative clauses are set off with brackets.)

(22.a) [Maria leech chshaak]-pu mamwi-a
Maria milk 3=bring-dem 2=do=what-Q
'What did you do with the milk Maria brought home?'

(22.b) [leech Maria chshaak]-pu mamwi-a
milk Maria 3=bring-dem 2=do=what-Q
'What did you do with the milk Maria brought home?'

Naynaa$_4$ may appear in a relative clause, indicting that the subject of the relative clause is coreferential with that of the clause in which it is embedded, as in (23). The head of the relative clause may be topicalized, in which case it precedes naynaa$_4$, as shown in (23.b).

(23.a) [naynaat paap afrir-pu] nemuxay
potatoes 3=fry-dem 3=like
'He likes potatoes that he (*other) fries himself'

(23.b) [paap naynaat afrir-pu] nemuxay
potatoes 3=fry-dem 3=like
'He likes potatoes that he (*other) fries himself'

Notice also that the linear position of naynaa$_4$ in (23.a,b) appears to parallel that of the relative clause's lexical subject in (22.a,b). In other types of complex sentences, too, naynaa$_4$ appears to occupy the syntagmatic slot in its clause which a lexical subject, if present, would occupy: compare (16) above with (24).

(24) llye'aaw-pu w-saaw-x tuuyaw-pes xattpa-pu-t paa-t nar
rabbit-dem 3-eat-irr 3=loc=aux-adv coyote-dem-sj 3=arrive-SS 3=steal
'He had been all ready to eat the rabbit, but Coyote arrived and took it from him'

Similar comparisons can be made with the remaining types of complex sentences; examples are available on request.

5.4. Coreference with the Subject of a Following Clause. Although it typically occurs in a non-initial clause and indicates coreference between the subject of its own clause and that of the preceding clause, in certain circumstances naynaa$_4$ may appear initially in a complex sentence. An example of this has already been seen in (23.a); another is presented in (25). The subject of naynaa$_4$'s clause must corefer with the subject of uuyaaw in (25).

(25) naynaak'12 w-tuum-x-pu uuyaaw xemaaw
3-pay-irr-dem 3=know neg
'She didn't know that she (*other) had to pay for it herself'

Sentence-initial naynaa indicates coreference across clauses only when it occurs in a nominalized relative or in a nominalized complement clause explicitly marked such by the demonstrative clitic -pu. When naynaa occurs initially in a complex sentence and the clause in which it occurs is not a nominalized relative or complement clause, naynaa is interpreted not as naynaa$_4$ which encodes coreference across clauses but as the emphatic naynaa$_1$. This can be seen in (26); another example is (2.c).

(26) naynaat chaw-x tapaa-chm w-xwak
1=fix-irr 1=loc=aux-DS 3-break
'I tried to fix it myself and it broke'

5.5. Coreference with the Subject of a Non-Adjacent Clause. Naynaa$_4$ is sometimes used to indicate that the subject of its clause corefers with that of a non-adjacent preceding clause.'13 This can be seen in (27).

(27) Maria tamaal w-chaw-pu may nemuxay xemaaw-pes naynaat nemuxay
Maria tamales 3-make-dem neg 1=like neg-advers 3=like
'I don't like Maria's tamales but she likes them' (lit. 'Although I don't like the tamales Maria makes, she likes them')

All examples of this phenomenon which I have been able to elicit involve the adversative construction. I suspect that the peculiar semantics of this construction are responsible for the construal of naynaa$_4$ with the subject of the non-adjacent clause. In (27), for instance, the adversative clause ('Although I don't like the tamales Maria makes') has a meaning contradictory to the meaning of the clause in which naynaa$_4$ occurs; thus if the subject of the latter were construed with that of the former the sentence would not make sense. Further investigation is needed to determine whether similar interpretations are possible in constructions where coreference with the adjacent clause is not ruled out pragmatically.

5.6. Coreference with Possessors. Naynaa$_4$ may be used in complex sentences to indicate coreference between the subject of one clause and the possessor of the subject of another clause in the same sentence. Consider the example in (28). Naynaa appears in the second

clause of this sentence and indicates that the possessor of the subject of its clause is coreferential with the (third person plural) subject of the preceding clause.

(28) nyexay-pu nyaam uuiit yu xemaay leep-pu
soup-dem really 3=give=pl aux boy orphan-dem
'Soup was all they ever gave him, the orphan boy,

naynaa ny-xaakwaall cha'saw kwa'xaan w-saw-pes
their=emph pos-children food nom=good 3-eat=pl-adv
although their own children ate good food'

In the examples in (29), the subject of naynaa$_4$'s clause may be interpreted as coreferential with the possessor of the subject of the preceding clause.

(29.a) Linda ny-famiil Kaamp-lly nyewaayk-pes naynaat chepa-t ...
Linda pos-family Campo-in 3=live-adv 3=exit-SS
'Linda's family lives in Campo, but she (herself) left and ...'

(29.b) Maria kw-nsuum nya-xnu naynaat pshaw
Maria 3-y=brother when-3=sick 3=care=for
'When Maria's brother was sick, she took care of him (herself)'

(29.c) (nyaap) ntachany w-aam-pes naynaat maaw
(my) 1=o=sister 3-go=away-adv 1=not=do
'My older sister left, but I (myself) didn't'

Sentences like those in (29) may also have another reading, in which the subject of naynaa's clause is coreferential with the (entire) subject of the preceding clause, if such a reading is pragmatically and grammatically possible. For instance, (29.b) may also be interpreted as 'When Maria's brother was sick, he took care of (someone) himself'. Notice, though, that a similar reading of (29.c) is impossible for grammatical (not to mention pragmatic) reasons: The verb of naynaa$_4$'s clause appears in an unambiguous first person form. The subject of the clause which precedes it is third person; thus the only interpretation possible of the sentence is that in which naynaa$_4$ is construed as coreferential with the first person possessor of the subject of the first clause.

5.7. Same-Subject Naynaa vs. the Same-Subject Suffixes. Although naynaa$_4$ functions as a marker of subject coreference, it differs in subtle ways from the same-subject switch reference suffixes. First, switch reference suffixes are not used in conjunction with suffixal clause-linking devices nor in relative clauses nor in nominalized clauses; naynaa$_4$, on the other hand, is used in these places (cf. 16,20,23,25). Second, switch reference suffixes appear only on dependent clauses; naynaa$_4$, on the other hand, may appear in a non-initial clause regardless of the dependency relations between this clause and the relevant preceding clause. Third, naynaa$_4$ may

indicate coreference between the subject of one clause and the possessor of the subject of another (cf. 5.6); switch reference suffixes may do no such thing.

Less subtle differences are these: First, naynaa$_{4}$ has an emphatic function, while the same-subject switch reference suffixes do not. Second, the appearance of same-subject switch reference suffixes is phonologically governed -- they tend to disappear in certain phonological environments. The appearance of naynaa$_{4}$, on the other hand, is pragmatically governed, and when it is used, it is a salient, stress-bearing word.

5.8. A Note on Naynaa$_{4}$ and Logophoric Elements. "Logophoric" elements have received much attention in recent literature (Clements 1975, Hyman and Comrie 1981, Maling 1984, O'Connor 1986, Sells 1987). These are special grammatical morphemes (often pronouns) which appear in clausal complements[14] of verbs of saying, thinking, and feeling and which indicate coreference between an argument in the complement clause and an argument in the higher clause. An example from Ewe (Clements 1975) appears in (30); the logophoric pronoun is glossed 'LOG'.

(30) Kofi be ye-dzo
Kofi say LOG-leave
'Kofi says that he (Kofi/*other) left'

If an ordinary pronoun, rather than the logophoric pronoun, is used in this context, it is interpreted as disjoint in reference from the relevant argument of the higher clause. This can be seen in (31) (likewise from Clements 1975), where the ordinary pronoun is glossed 'PN'.

(31) Kofi be e-dzo
Kofi say PN-leave
'Kofi says that he (other/*Kofi) left'

According to Clements (1975:141), the logophoric pronoun refers back to that argument of the higher clause "whose speech, thoughts, feelings, or general state of consciousness are ... reported" in the embedded clause. Details of the syntax and use of logophoric elements differ slightly across the languages which have them, but Clements's characterization seems to hold cross-linguistically.

Naynaa$_{4}$ and logophoric elements are similar in that both indicate coreference across clauses. However, they differ in important ways. While logophoric pronouns are used in a limited set of syntactic and semantic circumstances, naynaa$_{4}$ is used freely. It is not restricted to complement clauses; we have seen that it may occur in a wide variety of complex sentence types and that is is found in independent clauses as well dependent clauses. More importantly, as the examples in (14) and (16-21) demonstrate, naynaa$_{4}$ is not

restricted to contexts involving the reporting of speech, thoughts, feelings, or general states of consciousness. For these reasons, I do not consider naynaa$_4$ a logophoric element.

6. Diachronic Source of Naynaa

naynaa derives historically from a verb,[15] as is evident from the fact that it occasionally appears bearing residual verbal morphology. For example, naynaa sometimes appears with a prefix m-, the residue of the second person subject prefix,[16] when associated with a second person subject. (This happens only rarely; naynaa is not usually inflected for person of subject.) An example is given in (32).

(32) m-naynaa k-wiw
2- imp-see
'See for yourself'

Furthermore, naynaa sometimes appears with a final segment k in irrealis constructions. (This too is rare.) One example appears below and another in (25) above. The shape and position of this segment, along with the fact that all of its occurrences take place in irrealis contexts, strongly suggest that it is the residue of the irrealis same-subject suffix -k.

(33) Jose naynaak w-rar-x w-i
Jose 3-cook-irr 3-say
'Jose said he would cook it himself'

The hypothesis that naynaa was once a verb suggests a diachronic source for the t which often appears as its final segment: this t must once have been the realis same-subject suffix -t, alternating with the irrealis same-subject suffix -k in irrealis contexts.

Thus it is clear that naynaa derives historically from a verb which occurred as a dependent clause in a same-subject switch reference construction.

7. The Synchronic Status of Naynaa

7.1. Naynaa. Naynaa cannot be considered a verb synchronically. First, it does not normally inflect for person of subject. Second, its final segment t no longer productively alternates with -k in irrealis contexts (cf. 19,20; more examples available on request) and thus cannot be considered the realis same-subject suffix.

Synchronically, naynaa$_1$ can be considered simply an emphatic.[17] Naynaa$_3$, as suggested in 4.2, may be in the process of grammaticalizing as part of a new reflexive marker naynaa mat. The synchronic status of naynaa$_2$ and naynaa$_4$ will be discussed in section 7.3.

7.2. The Final Segment t. The final segment t which often appears on naynaa derives historically from the realis same-subject suffix but cannot be analyzed as this suffix synchronically. In this section I consider the question of what the synchronic status of the final segment t might be.

While alternation between naynaa and naynaat is not completely systematic, its distribution follows clear tendencies. The t-final form rarely appears in reflexive and emphatic possessive constructions. In simple emphatic and emphatic same-subject-marking constructions, however, the t-final form appears roughly 80% of the time.[18]

A brief summary of subject case marking is now in order. Jamul has a subject case marking clitic -t, which appears obligatorily on demonstratives and optionally elsewhere.[19] Lexical pronouns have distinct subject and non-subject forms[20]; their subject forms end in t (which is segmentable historically if not synchronically as the subject case marker).

Moyne (1971:159) has observed that in case-marking languages, ordinary emphatics (which have functions are roughly equivalent to that of $naynaa_1$) may bear nominative case marking; he cites Arabic and Hungarian as cases in point. This leads me to suspect that the final t which appears on $naynaa_1$ might be being reanalyzed as the subject case marker -t (or as the final t associated with the subject forms of lexical pronouns).

7.3. More Speculation. Possessive $naynaa_2$ and same-subject marking $naynaa_4$ behave syntactically like noun phrases. In particular, $naynaa_2$, like lexically realized nominal possessors, must appear immediately adjacent to the possessed noun, and together with the possessed noun it forms a syntactic constituent which may be postposed (cf. section 3).[21] $Naynaa_4$, as seen in 5.3, occupies the syntagmatic slot which a lexically realized subject would occupy if present -- even in clauses with permuted constituent order. Furthermore, both $naynaa_2$ and $naynaa_4$ have anaphoric functions: the former indicates coreference with a clausemate subject, and the latter indicates coreference with the subject of another clause.

Perhaps, then, $naynaa_2$ and $naynaa_4$ have been reanalyzed as special possessive and same-subject marking pronouns.[22]

A synchronic analysis of naynaa's final t as the subject case marker would nicely complement an analysis of $naynaa_{2,4}$ as special possessive and same-subject marking pronouns. If $naynaa_2$ were analyzed as a possessive pronoun, one would expect it to lack a subject case marker (as do other lexical pronouns in the fully specified possessive construction; cf. 3.1). If $naynaa_4$ were analyzed as a special subject pronoun, one would of course expect it to appear with the subject case marker (or with the final t associated with

the subject forms of pronouns). The distribution of t-final and vowel-final forms of naynaa reported in 7.2 conforms closely, if not perfectly, to these expectations. (The discrepancies may reflect that the reanalysis of naynaa's final t is not yet complete.)

The suggestions made here and in 7.2 are highly speculative and might be taken as a hypothesis to investigate in further research.

8. Closing Remarks

I have described naynaa's four uses and their syntactic characteristics. Syntactically, the four uses of naynaa differ from one another considerably; in terms of their functions, however, they remain quite similar to one another.

All uses of naynaa have an emphatic function. Naynaa_1 "emphasizes" a subject in that it indicates that the subject is somehow remarkable (see note 4) or that he acted alone, unaided, or voluntarily. Possessive naynaa_2 encodes emphatic coreference between a possessor and the subject of its clause: that is, it connotes that this coreference is remarkable. Same-subject-marking naynaa_4 encodes emphatic coreference between the subject of one clause and the subject of another. Finally, in its typical use in reflexive constructions naynaa_3 is emphatic: it indicates that coreference between subject and object is remarkable. (If, as other facts discussed in section 4 suggest, naynaa_3 is eventually grammaticalized as part of a new reflexive marker nãynaa mat, this emphatic function will be lost.)

In three of its uses, naynaa has an anaphoric function: it indicates coreference with a subject. Possessive naynaa_2 and reflexive naynaa_3 indicate coreference with a clausemate subject, while same-subject-marking naynaa_4 indicates coreference between the subject of the clause in which it occurs and the subject of another clause in the same sentence. Furthermore, while naynaa_1 is not anaphoric, is nonetheless bound to the subject of its clause in the sense that the subject is the only element of the clause which it can be interpreted as "emphasizing".

NOTES

1. This is a revised version of a paper (originally titled "A special pronoun in Jamul") read at the Haas Festival Conference, University of California, Santa Cruz, in June 1986. I would like to thank Bill Robboy, Peggy Speas, Sandra Thompson, and especially

Margaret Langdon for helpful comments on intermediate versions. My consultant is Mrs. Gennie Walker of San Diego, whose patience and generosity I deeply appreciate.

2. The following abbreviations are used in interlinear glosses: adv, adversative; aug, augment; dem, demonstrative; DS, realis different subject; hab, habitual; imp, imperative; irr, irrealis; irr=DS, irrealis different subject; irr=SS, irrealis same subject; loc=aux, locational auxiliary; nom, nominalizer; neg, negative; perf, perfective auxiliary; pl, plural; pos, alienably possessed; purp, purposive; Q, question; refl, reflexive; sj, subject; SS, realis same subject; 1, first person subject or first person possessor; 2, second person subject or possessor; 3, third person subject or possessor; #/#, person of subject/person of object (note: third person objects are not indexed by pronominal prefixes). The symbol = is used to separate the parts of the gloss of a morpheme. Morpheme boundaries are indicated by a dash.

Data are presented in a practical orthography adapted from that of Couro and Hutcheson (1973). The symbols ' cn, kw, ll, lly, ly, ny, sh, xw represent /ʔ, č, k^w, ƛ, ƛ^y, l^y, n^y, š, x^w/, and VV represents a long vowel. e represents the inorganic vowel schwa. The symbol = is used to separate adjacent like vowels. I omit schwa at morpheme boundaries.

3. In this paper, I will use the term "lexical pronoun" to refer both to lexical pronouns and to those lexical demonstratives which may be used for textual (as well as spatial) deixis and which fulfill the function of third person pronouns.

4. More precisely, the fact that the subject's referent fulfills whatever semantic role is associated with the subject of the relevant verb is seen as remarkable by the speaker.

5. Similar interpretations of emphatics are found in other languages; see Moyne (1971) and Edmundson and Plank (1978).

6. (3.a) is preferred to (3.b). (3.b) was judged grammatical (with the meaning 'I spoke to the chief myself/*himself') by my consultant, but she did not produce it herself.

7. Faltz (1985:242-3) notes that the distribution of the emphatic <u>self</u> in Middle English reflexive constructions follows a similar pattern.

8. I consider true reflexives to be forms of ordinary transitive verbs which happen to have objects coreferential with their subjects.

9. Langdon and Munro (1979) point out that "same" need not always mean "strictly coreferential"; switch reference constructions involving weather verbs and cases in which the subjects of two

clauses overlap in reference constitute cases in point. Precise terms like "coreferential" are thus not accurate, and for this reason Langdon and Munro's deliberately imprecise terms "same as" and "different from" are used here.

10. This analysis of the different-subject suffix -m is tentative.

11. Edmundson and Plank (1978:388-92) observe that in English, a similar effect sometimes obtains when the subject of a non-initial clause is emphasized with himself.

12. The final segment k which appears here will be discussed in section 7.

13. Similar phenomena have been observed in studies of switch reference marking in other languages (see for example Gordon 1981, Oswalt 1981).

14. Sells (1987) points out that in some languages (he cites Mundang), logophoric pronouns are also found in relative clauses modifying objects of verbs of this class.

15. Incidentally, the Yuman language Mojave has a verb i:we: which means 'do oneself', according to Munro (1976:47). Here is one of her examples:

k-i:we:-k k-a?wi:-m
imp-do=oneself-SS imp-do-tns
'Do it yourself!'

16. The forms of the personal subject prefixes which appear on intransitive verbs (and on transitive verbs with third person objects) are:

First person	'-	before monosyllabic vowel-initial stems
	Ø	elsewhere
Second person	m-	
Third person	w-	before most monosyllabic monomorphemic stems
	Ø	elsewhere

It should be noted that the forms which one would expect to appear on a consonant-initial, bisyllabic verb are identical in shape to the corresponding possessive prefixes.

17. Emphatics, also known as intensifiers, have received little attention in the literature (exceptions include Moyne 1971, Moravcsik 1972, Edmundson and Plank 1978), and they are not well understood. In a study of intensifier (i.e. emphatic) constructions in 60 languages, Moravcsik (1972) adopts the following working definition: intensifier constructions are phrases consisting of a

noun or pronoun followed by another word, the whole phrase being the translation equivalent of the phrase I myself in the sentence I myself haven't seen it (the intensifier itself is the word following the noun or pronoun in the former). Emphatic naynaa$_1$ fits this definition - but other uses of naynaa do not.

I assume that emphatics can be considered a class which need not be subsumed under any major word class.

18. These statistics are based on elicited data as well as on data from texts. If only text data were considered, the two forms could be said to be in complementary distribution, the vowel-final form appearing in emphatic possessive and reflexive contexts and the t- final form appearing in simple emphatic and emphatic same-subject constructions. However, the number of occurrences of naynaa in texts is rather small.

19. See Gorbet (1976) for discussion.

20. Jamul's lexical pronouns have subject and non-subject forms:

	SUBJECT FORMS		NONSUBJECT FORMS	
	Singular	Plural	Singular	Plural
First person	nyaat	nya'wat	nyaap	nya'wap
Second person	maat	menya'wat	maap	menya'wap

There are no third person lexical pronouns; demonstratives are used instead. In this paper I have used the term "lexical pronouns" to include demonstratives as well as lexical pronouns; cf. note 3.

21. One syntactic difference between naynaa$_2$ and possessively-used nouns and pronouns must be noted. As observed in 3.1, a possessor cannot be lexically realized if it corefers with a lexically realized argument in the same clause. Naynaa$_2$, on the other hand, may appear when the subject with which it corefers is lexically realized (cf. 8.b; 10.a). I believe that this reflects a functional difference between naynaa$_2$ and possessively-used lexical pronouns (the former are used to indicate contrastive reference, while naynaa is used to indicate emphatic coreference) rather than a syntactic difference between them.

22. Moravcsik (1972) has pointed out that, cross-linguistically, words which function as emphatics (which she calls intensifiers) are sometimes used as pronouns as well.

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THE FOCUS ANTIPASSIVE IN K'ICHE' MAYAN*

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Abstract: My purpose in this paper is to show how the Government and Binding framework of Chomsky (1981) can be extended to the focus antipassive construction in K'iche' Mayan. At first sight an antipassive construction would appear to contradict the GB account of passives. It affects an internal rather than an external verb argument. I show that the GB framework can be extended naturally to account for the focus antipassive in K'iche'.

K'iche' is a Mayan language spoken in the central highland region of Guatemala. There is substantial descriptive literature on K'iche' grammar (Dayley 1981, Kaufman 1977, Larsen & Norman 1979, Mondloch 1978, 1981, Norman 1978, Smith-Stark 1978, Trechsel 1982), but little formal analysis has been done. Perhaps the language's most notable feature is its ergative morphology which unlike other ergative languages remains exceptionless throughout the various combinations of person, aspect and clause type. Ergativity may even extend to some aspects of K'iche' syntax although not all linguists working on the language agree.

My purpose in this paper is to show how the Government and Binding framework of Chomsky (1981) may be extended to the focus antipassive construction in K'iche'. The GB model has been successfully extended to a number of Romance languages with the interesting consequence that a wide range of differences between the languages may be due to variation among a limited set of parameters. To my knowledge, however, no one except Larsen (1987) has attempted to analyze an antipassive construction within the GB framework.

At first sight an antipassive construction would seem to contradict the GB description of passives. The explanation of passives in GB such as that in (1a) assumes the underlying structure shown in (1b).

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(1a) John was kissed.
(b) e was kissed John.

GB theorists assume that the passive suffix on the verb absorbs the agent Θ-role so that no referential NP may be generated within this position. The passive participle also becomes adjectival and fails to assign case to the following object NP. This NP must move to the subject position to receive case, but retains its Θ-role from a coindexed trace in the [NP,VP] position (see Jaeggli 1986 for details).

K'iche' contains two distinct forms of passive as well as two forms of antipassive. The passive constructions in K'iche' divide naturally into a syntactic and a lexical passive (cf. Norman 1978). Mondloch (1981) labels the syntactic passive in K'iche' simply passive1, which is the term I will adopt. An example of passive1 in K'iche' is shown in (2)[1].

(2) x-0-q'alu-x ri: ak'al w-uma:1
PERF-3A-hug-PASS1 the child 1E-because

'The child was hugged by me.'

The underlying direct object (ri: ak'al) has become the subject as shown by the agreement morphology on the verb. The underlying subject has been demoted to an oblique phrase which is headed by the relational noun -uma:l. The verb has become morphologically intransitive since it only allows a subject agreement marker from the absolutive set of inflections. All of these changes can be explained in the standard way in GB theory.

An antipassive construction on the other hand operates in the opposite manner. Examples of focus antipassive constructions in K'iche' are shown in (3).

(3a) jachin x-0-poq'ow-isa-n ri: joro:n
who PERF-3A-boil-CAUSE-FOC_AP the water

'Who boiled the water?'

(b) k-0-in-ch'ob' ri: ixoq
IMPERF-3A-1E-know the woman

[(ri) x-0-k'am-ow b'i ri: si:']
that PERF-3A-carry-FOC_AP here the firewood

'I know the woman who brought the firewood.'

(c) are: ri: at x-at-riq-ow ri: ak'al
FOCUS the you PERF-2A-find-FOC_AP the child

'You were the one who found the child.'

In each of these examples the subject comes into focus in some way: either in a question as in (3a), a relative clause (3b) or in a sentence cleft (3c). The antipassive verb only has one person marker prefix and becomes morphologically intransitive as indicated by the presence of an intransitive termination marker when the verb occurs in clause-final position. Compare the antipassive construction in (4a) with the regular intransitive phrase in (4b) and the regular transitive phrase in (4c).

(4a) jachin k-0-ch'ay-ow-ik
who IMPERF-3A-hit-FOC_AP-TERM

'Who hits?'

(b) jachin k-0-b'e:-ik
who IMPERF-3A-go-TERM

'Who is going?'

(c) jas k-0-u:-riq-oh
what IMPERF-3A-3E-found-TERM

'What did he find?'

Superficially, the focus antipassive construction appears to directly contradict current GB accounts of the passive. The passive suffix absorbs the agent 0-role and the verb becomes intransitive whereas the focus antipassive appears to absorb the patient 0-role to make the verb intransitive. Jaeggli's appeal to the distinction between external and internal 0-roles to explain the operation of the passive could not be maintained if a construction such as the focus antipassive showed it was possible for the internal 0-role to be absorbed rather than the external one.

Larsen (1987) argues that the focus antipassive in K'iche' does not absorb the internal 0-role. First an overt object NP can freely appear in focus antipassive constructions (cf. the examples in 2), one indication that the verb still assigns a 0-role and case to the direct object position. Secondly, focus antipassive verbs sometimes agree with their object rather than the subject. The focus antipassive actually agrees with the NP that is highest on the hierarchy shown in (5).

(5) non-third person > 3pl > 3sg

An example of object agreement in the antipassive is shown in (6).

(6) jachin x-at-ch'ay-ow-ik
who PERF-2A-hit-FOC_AP-TERM

'Who hit you?'

Thus, person and number features from the object NP must still be available to the verb at some level.

Larsen points out one other fact about the focus antipassive that will have to be accounted for. It is subject to the weak crossover phonomenon. In (7) the wh-phrase is not interpreted as being coreferential with the possessor of the object phrase.

(7) jachin$_i$ x-0-ch'ay-ow
who PERF-3A-hit-FOC_AP

ri: r$_j$-achala:1
the his/her-relative

'Who$_i$ hit his/her$_j$ relative?'

Larsen explains this outcome by assuming the underlying structure shown in (8).

(8) [jachin$_i$ [PRO$_i$ [INFL[[x-0-ch'ay-ow[e$_i$]]
S' S' S VP VP NP

[ri: r$_j$-achala:1 [e$_j$]]][e]]]]
NP NP NP

In Larsen's analysis PRO moves out of the leftmost NP position, which is assigned the agent role, into COMP, where it is ungoverned[2] and is coindexed with jachin in a higher clause. He further assumes that there is no subject agreement inflection (SAGR) in INFL to assign case to the subject position [NP,S], so an overt NP may not appear there. An object agreement inflection (OAGR) remains in INFL, and assigns its case to the agreement marker which passes its case to the direct object NP. Since the leftmost subject NP and the possessor of the head of the object NP do not c-command each other, they cannot have the same referent.

This analysis faces a number of problems. First, it assumes that K'iche' verbs assign the agent θ-role to an NP in [NP,VP] position. This would abolish the distinction between internal and external arguments and thus undermine any account of passives in the language. Second, the analysis requires an arbitrary connection between the [NP,VP] position which receives the agent θ-role and the [NP,S] position which receives ergative case. Ordinary transitive verbs in K'iche' would require the subject NP to move from the [NP,VP] to the [NP,S] without any change in verb morphology. There is no explanation why the object NP in [NP,VP] position would be casemarked by the OAGR while the subject NP in [NP,VP] would not be casemarked by the SAGR. Third, his analysis may explain why the absolutive set of verb prefixes is used for the objects of transitive verbs and the subjects of intransitive, but it misses the fact that objects of transitive verbs have a theme θ-role while subjects of intransitive verbs have a different θ-role. Fourth, this analysis contradicts his analysis of another example of weak crossover in K'iche' shown in (9) (Larsen's example 25).

(9) jachin$_i$ x-0-u:-ch'ay ri: r$_{i/j}$-achala:l
who PERF-3A-3E-hit the his/her-relative

'Who$_i$ did his/her$_j$ relative hit?'

Here the possessor of the direct object also has a different referent from the wh-phrase. Yet the underlying structure for (9) according to Larsen's final analysis would be that shown in (10).

(10) [jachin$_i$ [[INFL[[x-0-u:-ch'ay
S' S' S VP VP

[ri: r$_i$-achala:1][t$_i$]][e]]^3
NP NP NP

In this case the subject NP (ri r-achala:1) would receive its 0-role from the verb and then move to the [NP,S] position to be casemarked by the SAGR. The wh-trace in the object position, however, would c-command the possessor of the subject NP when it was in its original position. Thus, Larsen's analysis predicts coreference between the wh-phrase and the possessor of the subject NP contrary to what K'iche' speakers state.

It therefore seems reasonable to look for another approach to analyzing the focus antipassive. I think the best solution would be to base generate the subject NP in [NP,S] position. This preserves the distinction between internal and external arguments and the different θ-role assignments for subjects and objects. It creates a problem in accounting for the different subject prefixes used with transitive and intransitive verbs which I will address presently. At this point, however, I want to discuss how this structure can account for the features of the focus antipassive that we have seen.

I will assume that the underlying structure of the focus antipassive question in (7), repeated below, is that shown in (11).

(7) jachin$_i$ x-0-ch'ay-ow ri: r$_j$-achala:1
who PERF-3A-hit-FOC_AP the his/her-relative

'Who$_i$ hit his/her$_j$ relative?'

(11) [jachin$_i$ [SAGR_OAGR [x-0-ch'ay-ow
S' S VP

[ri: r$_j$-achala:1]] [e]]]
NP NP

In this sentence, the antipassive suffix absorbs the agent θ-role in exactly the same way the passive suffix does. This being the case, the [NP,S] position remains empty. This empty category is governed by the SAGR inflection in INFL so no violation of the ECP occurs. In the focus antipassive construction, however, the OAGR inflection is retained and transmits case to the

object NP in [NP,VP] position. This means that the object NP is not free to move to the [NP,S] position since it would violate the Case Filter if it did so. There is no possibility of coreference between the possessor of the object NP and the subject NP because nothing occupies the subject NP position. The antipassive suffix transmits the agent 0-role to the wh-phrase by some mechanism which I haven't determined yet.

A similar analysis will account for Larsen's other examples. The underlying structure for (9), repeated below, would be that shown in (12).

(9) jachin$_i$ x-0-u:-ch'ay ri: r$_{i/j}$-achala:1
who PERF-3A-3E-hit the his/her-relative

'Who$_i$ did his/her$_j$ relative hit?'

(12) [jachin$_i$ [SAGR_OAGR [x-0-u:-ch'ay [t$_i$]]
S' S VP NP

[r$_j$-achala:1]]]
NP

In this case a regular transitive verb assigns a Θ-role and case to the subject NP. The possessor of the subject NP does not c-command the wh-trace in the direct object position so there is no possibility of coreference between them.

The sentence in (9) is actually ambiguous. Another possible interpretation would be 'Who$_i$ hit his/her$_i$ relative?'. Mondloch (1981:233-238) notes that sentences where the subject and possessor of the direct object are coreferent are exceptions to the requirement that the focus antipassive be used for subject focus. This fact would also be accounted for under my analysis. The underlying structure of the second interpretation for sentence (9) is shown in (13).

(13) [jachin$_i$ [SAGR_OAGR [x-0-u:-ch'ay
S' S VP

[ri: r$_i$-achala:1]] [t$_i$]]]
NP NP

Here, the variable and the possessive marker are both free in the necessary environments, but the variable in

the subject position c-commands the possessive marker explaining their coreference. As I discussed above, there would be no possibility of a coreference interpretation in the focus antipassive because there would not be anything in the [NP,S] position.

The variable agreement of the verb in the focus antipassive must still be accounted for. I think Larsen's account (56-57) is essentially correct although there are a few details which must be changed to make it consistent with my analysis. Unlike Larsen, I assume that both the SAGR and OAGR inflections are still present in the focus antipassive. However, another consequence of the absorption of the agent θ-role is the removal of the subject prefix slot in the verb's morphology. The two person inflections must vie for the single remaining inflectional slot. This can only be accomplished if one of the inflections is zero or if it is one of the formal markers for second person which are enclitics that follow the verb. Since there is only a single remaining prefix position, a marker from the absolutive set will indicate whichever inflection wins the competion for this slot. This mechanism would allow the prefix morphology to be assigned independently of an NP's θ-role.

It is somewhat surprising that GB theory can illuminate so many features of the focus antipassive in K'iche'. Perhaps the most striking feature of this analysis is the way the antipassive may be assimilated to previous analyses of passives. My analysis, however, leaves the ergative nature of this syntactic operation firmly in place. It only applies to the subjects of transitive verbs.

NOTES

* I have relied primarily upon the K'iche' data in Larsen 1987 and Mondloch 1981 for this paper. It is consistent with my own data from speakers of K'iche' from Zunil.

1 I have altered Larsen's spellings to reflect the Zunil dialect with which I am the most familiar. All K'iche' words are shown in the practical orthography developed by the Proyecto Linguistico Francisco Marroquin (Kaufman 1976) with a single exception: the use of ‹'› rather than ‹7› for the glottal stop. The other orthographic symbols have their standard IPA values except: ‹tz› = /t͡s/, ‹ch› = /t͡ʃ/, ‹b'› = /ɓ/, ‹tz'› = /t͡s'/, ‹ch'› = /t͡ʃ'/, ‹x› = /ʃ/ /, ‹j› = /X/. I use the colon ‹:› to indicate long vowels. I have also used the following morphological abbreviations: PERF = perfective aspect, IMPERF = imperfective aspect, 3A = third person singular absolutive person marker (what Mayanists refer to as 'set B'), 1E = first person singular ergative person marker (or 'set A'), CAUSE = causative, PASS = the passive suffix, FOC_AP = the focus antipassive suffix, TERM = the clause-final termination marker.

2 I have followed Larsen in using Reinhart's (1983:18) definition of 'c-command' and Aoun & Sportiche's (1983) definition of 'government' (cf. Chomsky 1981:164). 'Proper government' is defined in Chomsky (1981:250,273-274).

3 I have suppressed the full structure of the possessed NP since it is not relevant to my argument. It should be understood in this and the following examples that the possessed NP has an empty possessor NP node following it licensed by the possessive prefix on the head NP. The full structure of the possessed NP would be:

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[ri [rɟ-achala:l] [eɟ]]
NP  N'             NP
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Smith-Stark, T. 1978. The Mayan antipassive: Some facts and fictions. In N. England (ed.), Papers in Mayan Linguistics, 169-187. Studies in Mayan linguistics no. 2 (University of Missouri miscellaneous publications in anthropology no. 6) Columbia: University of Missouri.
Trechsel, F. R. 1982. A categorial fragment of Quiché. Texas Linguistic Forum 20. Department of Linguistics, The University of Texas.

AN ANNOTATED BIBLIOGRAPHY OF KIOWA-TANOAN

Robert Sprott

Abstract: The Kiowa-Tanoan languages are Kiowa (Oklahoma), and Tiwa, Tewa, and Towa (New Mexico and Arizona). The bibliography lists both published and unpublished sources on these languages, and gives a brief description of each item.

This work began as a project in a survey course on Native American languages taught by Willem de Reuse at the University of Chicago in the Fall of 1987. His contributions and suggestions for the first draft were extremely helpful, and I thank him for his assistance. Remaining errors and omissions are of course my own.

As with any body of literature, the Kiowa-Tanoan contains some very bad essays and some very fine ones. This is a bibliography and not a review of the literature, and so (with some exceptions) the notes are merely descriptive. Hopefully, they are precise enough to assist the reader in determining for himself whether a given item is worth pursuing or not. Unannotated entries are those works I found listed in the bibliographies of others but have not yet been able to obtain.

The following abbreviations are used:

AA -- American Anthropologist
AL -- Anthropological Linguistics
BAEB -- Bulletin of the Bureau of American Ethnology
BAER -- Annual Report of the Bureau of American Ethnology
BLS -- Proceedings of the Annual Meeting of the Berkeley Linguistics Society
IJAL -- International Journal of American Linguistics
Lg -- Language
SIL -- Studies in Linguistics

Allen, Barbara and Donald Frantz. 1978. 'Verb agreement in Southern Tiwa.' BLS 4:11-17. [A Relational Grammar analysis of Southern Tiwa verbal morphology. The verb prefixes are shown to reflect features of initial direct objects as well as final direct objects and subjects.]

Allen, Barbara and Donald Frantz. 1983. 'Advancements and verb agreement in Southern Tiwa.' Studies in

Relational Grammar 1, edited by David Perlmutter. University of Chicago Press, pp. 303-314. [A revised and expanded version of the above.]

Allen, Barbara and Donald Frantz. 1986. 'Goal advancement in Southern Tiwa.' IJAL 52:388-403. [RG analysis of certain sentences in which the initial goal of the action is the final subject.]

Allen, Barbara and Donna Gardiner. 1981. 'Passive in Southern Tiwa.' Proceedings of the Ninth Annual Southwestern Areal Language and Linguistics Workshop. Ed. by Charles Elerick. University of Texas at El Paso, pp. 291-302. [Careful and detailed argument for the passive transformation in Isleta on the basis of noun flagging, noun incorporation, and verbal morphology. Also discusses passivization constraints in Isleta.]

Allen, Barbara, Donna Gardiner, and Donald Frantz. 1984. 'Noun incorporation in Southern Tiwa.' IJAL 50: 292-311. [Describes conditions under which noun incorporation may or must occur. An RG analysis, it also demonstrates how noun incorporation interacts with passive, indirect object advancement, and goal to subject advancement.]

Baker, Mark C. 1988. Incorporation: A Theory of Grammatical Function Changing. University of Chicago Press. [Uses the Southern Tiwa data in the works of Allen, Gardiner, and Frantz within a Government-Binding approach to noun incorporation.]

Bartlett, John R. 1909. 'The language of the Piro.' AA 11:426-433. [A 180 item word list elicited by Bartlett in 1850 from the last two speakers. He also reports that his informants told him that the distinction between men's and women's speech was quite pronounced, which is not generally the case in the Kiowa-Tanoan languages.]

Bodine, John J. 1968. 'Taos names: A clue to linguistic acculturation.' AL 10,5:23-27. [Uses census records and his knowledge of some Taos families to show that English given names are replacing Spanish given names. From this he concludes that English has replaced Spanish as the language for dealing with outsiders. Bodine is an anthropologist.]

Brandt, Elizabeth. 1970. Sandia Pueblo, New Mexico: A Linguistic and Ethnolinguistic Investigation.

Southern Methodist University PhD dissertation. [A description of the phonology, morphemics, and language use patterns of Sandia. She concentrates on what she discerns as the 'changing phonology' of Sandia, although she also presents the verbal prefix system and documents how the noun class system is breaking down. Includes a long, historical introduction to the Pueblo.]

Brandt, Elizabeth. 1970. 'On the origin of linguistic stratification: The Sandia case.' AL 12:46-50. [Argues that the New Mexico pueblos should not be considered homogeneous speech communities. Most observers of Sandia believe that the native language is dying out. Brandt, however, analyzes the situation in terms of generational differences and phonological shifts between the generations.]

Brandt, Elizabeth. 1975. 'Linguistic diversity in Southwestern Indian languages.' In Southwest Languages and Linguistics in Educational Perspective. Ed. by Gina C. Harvey and M. F. Heiser. San Diego: Institute for Cultural Pluralism, pp. 281-290. [A further development of the position taken in her earlier writings. Presents evidence which she claims shows that the sound system of present day Sandia youth is a 'return' to the one employed at the turn of the century. Hypothesizing a 'cyclic' pattern of phonological change, she analyzes the current disjunction between younger and older Sandia speakers in terms of this cycle, arguing that the disjunction is not evidence of language death or decay.]

Cook, Sarah Louise. 1930. The Ethnobotany of Jemez Indians. University of New Mexico MA thesis. [A brief history of Jemez since the Spanish conquest, and a short list of plants (the scientific and Jemez names are given), together with notes on how the plants are used by the Jemez people.]

Crowell, Edith E. 1949. 'A preliminary report on Kiowa structure.' IJAL 15:163-167. [Syllable structure, phonetic inventory, bits of morphology and syntax, with a tentative phoneme list. The description is marred by constant reference to 'New York City pronunciation' as if that were a single phenomenon and one recognizable by all.]

Davis, Irvine. 1959. 'Linguistic clues to northern Rio Grande prehistory.' El Palacio 66:73-84. [Uses

glottochronology in an attempt to reconstruct the history of the Tanoan peoples.]

Davis, Irvine. 1979. 'The Kiowa-Tanoan, Keresan, and Zuni languages.' The Languages of Native America, edited by Lyle Campbell and Marianne Mithun. University of Texas Press, pp. 390-443. [A broad survey of all Pueblo languages with considerations of ethnohistory, linguistics and glottochronology. Contains an extensive bibliography and a list of what linguists are working on what languages.]

Dozier, Edward P. 1953. 'Tewa II: Verb structure.' IJAL 19:118-127. [An abridged version of his MA thesis. 'Tewa I' is apparently Hoijer and Dozier 1949. This is a classification of Tewa verbs, with lists of words to illustrate the different types. He supplements his own native speaker knowledge with work done with other speakers.]

Dozier, Edward P. 1955. 'Kinship and linguistic change among the Arizona Tewa.' IJAL 21:242-257. [Compares the kinship systems and the kin terms of Hopi, Arizona Tewa, and Santa Clara. Concludes that the Arizona Tewa use the same terms as the Santa Clara, but in fact have a kinship system that is more like the Hopi than the Rio Grande Tewa.]

Dozier, Edward P. 1956. 'Two examples of linguistic acculturation: The Yaqui of Sonora and Arizona, and the Tewa of New Mexico.' Lg 32:146-157. [Sociolinguistic approach to loan words. Claims that the attitude towards and use of loan words is a part of the overall reaction to the outside culture.]

Dozier, Edward P. 1958. 'Cultural matrix of singing and chanting in Tewa pueblos.' IJAL 24:268-272. [Also deals with formal speech making. Treats both Rio Grande and Arizona Tewa. Very little on the language itself, but offers a nice background in some of the social uses of the language.]

Frantz, Donald G. 1985. 'Syntactic constraints on noun incorporation in Southern Tiwa.' BLS 11:107-116. [A Relational Grammar analysis of Isleta noun incorporation, arguing that what can and cannot incorporate depends on grammatical relations, and not on argument structure or semantic roles.]

Hale, Kenneth. 1962. 'Jemez and Kiowa correspondences in reference to Kiowa-Tanoan.' IJAL 28:1-8. [A

phonological comparison of the languages in the then only postulated family. Attempts to move from Harrington's 'resemblances' to sound correspondences that will aid in the identification of cognates. He shows that the same correspondences found in Kiowa-Taos and Kiowa-Tewa are also present in Kiowa-Jemez, and this confirms the Kiowa-Tanoan relationship.]

Hale, Kenneth. 1967. 'Toward a reconstruction of Kiowa-Tanoan phonology.' IJAL 33:112-120. [A contribution to the investigation of the claim of a Kiowa-Tanoan and Uto-Aztecan connection. Offers a phonemic inventory of Proto-Kiowa-Tanoan, and describes allophonic processes and other phonological rules and shifts. Has a long cognate list.]

Hale, Kenneth. 1972. 'A new perspective on American Indian linguistics.' New Perspectives on the Pueblos, edited by Alfonso Ortiz. Albuquerque: University of New Mexico Press, pp. 87-110. [Outlines the research strategy he believes must be followed in the future, one in which Native Americans themselves do most of the linguistic work. Provides examples illustrating the constraints on passive and noun incorporation in Jemez.]

Hall, Robert A. 1947. 'A note on Taos k'owena (horse).' IJAL 13:117-118. [Argues that the Taos word for 'horse' is a Spanish loan word.]

Harper, Blanche Wurdack. 1929. Notes on the Documentary History, the Language, and the Rituals of Jemez Pueblo. University of New Mexico M.A. thesis. [Offers brief, descriptive notes on certain customs and rituals. The language section is a word list arranged by semantic domains. There is no explanation of the phonetic values for the orthographic symbols used. Includes a couple of brief stories.]

Harrington, John P. 1909. 'Notes on the Piro language.' AA 11:563-594. [Takes Bartlett's word list published in the same issue, and compares it with Jemez and Tewa. The percentage of cognates is quite high, showing that Piro was definitely a Tanoan language. The article also contains an interesting anecdote of Harrington's unsuccessful search for a living native speaker of Piro.]

Harrington, John P. 1910. 'An introductory paper on the Tiwa language, dialect of Taos, New Mexico.' AA 12:11-48. [A phonological sketch, with very little

on syntax. Presents a phonemic inventory and discusses processes of elision and ablaut.]

Harrington, John P. 1910. 'A brief description of the Tewa language.' AA 12:497-504. [Gives phonetic and phonemic inventories, discusses noun classes and pronouns, and includes the Lord's prayer in Tewa.]

Harrington, John P. 1910. 'On phonetic and lexic resemblances between Kiowan and Tanoan.' AA 12:119-123. [A comparison of the phonemic inventories followed by a couple of pages of likely cognates.]

Harrington, John P. 1912. 'The Tewa Indian game of "cañute".' AA 14:243-286. [A delightful read, although there is not much linguistic information beyond the terms used in the playing of the game.]

Harrington, John P. 1912. 'Tewa relationship terms.' AA 14:472-498. [An exhaustive list of kin and clan terms of address and description.]

Harrington, John P. 1916. 'The Ethnogeography of the Tewa Indians.' BAER 29. [A massive work, more than six hundred pages long. The first hundred pages treat Tewa beliefs and words regarding cosmology, meteorology, seasons and periods of time, and geographical terms. The rest of the work is a detailed list of place names.]

Harrington, John P. 1928. 'Vocabulary of the Kiowa Language.' BAEB 84. [The two-hundred page Kiowa-English vocabulary is followed by an English-Kiowa word list and charts of the verbal prefix system.]

Harrington, John P. 1946. 'Three Kiowa texts.' IJAL 12:237-242. [Three brief texts. A Kiowa sentence is followed by an English translation, more or less on a word-by-word basis. By itself, this work is not terribly useful, as it contains no phonological sketch, no list of phonetic values for the orthographic symbols, no morpheme-by-morpheme glossing, and no free translation.]

Harrington, John P. 1947. 'Three Tewa texts.' IJAL 13:112-116. [Same as above.]

Harwell, Janice. 1971. A Grammatical Comparison of Kiowa and the Tanoan Languages, Taos and Tewa. University of Kansas MA thesis. [Compares and contrasts the three languages with regard to verbal

morphology, noun classes, negation, and question formation.]

Henderson, Junius and John P. Harrington. 1914. 'Ethnozoology of the Tewa Indians.' BAEB 56. [A general introduction to ethnozoology and Tewa terms for the different types of animals is followed by an annotated list of animals. The Tewa term is given, together with the genus and species it refers to; the Spanish name is also often given, together with the name from a variety of other Southwest Indian languages. The notes describe how the Tewa regard the animal, and recount any stories they have about it. Includes an index of the English animal names.]

Hoijer, Harry and Edward P. Dozier. 1949. 'The phonemes of Tewa, Santa Clara dialect.' IJAL 15:139-144. [Phonemic inventory, stress assignment rules, syllable structure. Relies completely on Dozier, himself a Tewa bilingual.]

Jones, Volney H. 1931. The Ethnobotany of the Isleta Indians. University of New Mexico MA thesis. [Gives a very brief historical sketch and linguistic description of Isleta. The annotated list of plants has 125 items, but no Indian names are given.]

Kroskrity, Paul V. 1977. Aspects of Arizona Tewa Language Structure and Language Use. Indiana University PhD dissertation. [The first part is a thorough review of the Kiowa-Tanoan literature up to 1977. The second part deals with a number of syntactic phenomena, including passive, relative clauses, conjunction, and the particle /-di/. The third part takes up some anthropological and sociolinguistic concerns.]

Kroskrity, Paul V. 1978. 'On the lexical integrity of Arizona Tewa /-di/: A principled choice between homophony and polysemy.' IJAL 44:24-30. [Examines the suffix /-di/ and its many uses (instrumental postposition, agent marker in passive constructions, comitative marker), and argues for polysemy.]

Kroskrity, Paul V. 1978. 'Aspects of syntactic and semantic variations within the Arizona Tewa speech community.' AL 20:235-257. [Catalogues and discusses the variations of language use and competency within Tewa Village, and demonstrates that it is wrong to regard it as a single, undifferentiated linguistic community. Especially valuable in that

it describes the perceptions and judgments of the people themselves on this topic.]

Kroskrity, Paul V. 1978. 'Inferences from Spanish loanwords in Arizona Tewa.' AL 20:340-350. [Compares and contrasts the quantity and kind of loan words adopted by Hopi, Arizona Tewa and Rio Grande Tewa in order to draw inferences regarding linguistic acculturation. Concludes that loan word adoption is a part of a community's overall reaction to the surrounding culture, as Rio Grande Tewa has adopted a great deal from Spanish whereas Hopi and Arizona Tewa have borrowed very little.]

Kroskrity, Paul V. 1982. 'Language contact and linguistic diffusion: The Arizona Tewa speech community.' In Bilingualism and Language Contact: Spanish, English, and Native American Languages. Ed. by F. Barkin et al. New York: Teachers College, Columbia University, pp. 51-72.

Kroskrity, Paul V. 1983. 'On male and female speech in the Pueblo Southwest.' IJAL 49:88-91. [Discusses 'sex-exclusive' phrases which, though few in number, play a significant role in kin terms and kiva talk. Compares Hopi, Tewa (Arizona and Rio Grande), Keresan, and Tiwa (Sandia).]

Kroskrity, Paul V. 1984. 'Negation and subordination in Arizona Tewa: Discourse pragmatics influencing syntax.' IJAL 50: 94-104. [Claims that the suffixal part of the verbal negative frame /we... -di/ is a reinterpretation of the subordinating suffix. Surveys all the negative particles in Tanoan languages, and also explores evidence of a similar process in Australian languages.]

Kroskrity, Paul V. 1985. 'A holistic understanding of Arizona Tewa passives.' Lg 61:306-328. [Approaches the passive from three perspectives: typological, genetic-historical, and areal-historical. Relates the passive to other grammatical processes.]

Kroskrity, Paul V. and Dewey Healing. 1978. 'Coyote and Bullsnake' in Coyote Stories I, IJAL Native American Texts Series, monograph 1. Edited by William Bright. [An interlinear text, glossed morpheme by morpheme, with a free translation.]

Kroskrity, Paul V. and Dewey Healing, 1980. 'Coyote Woman and the Deer Children' in Coyote Stories II,

IJAL Native American Texts Series, monograph 6. Edited by Martha B. Kendall. [Same as above.]

Leap, William. 1970. The Language of Isleta, New Mexico. Southern Methodist University PhD dissertation. [A descriptive study of the phonology, morphemics, syntax, and semantics of Isleta.]

Leap, William. 1970. 'Tiwa noun class semology: A historical view.' AL 12:38-45. [Looks at how the 'inverse number' system works in Northern and Southern Tiwa in an attempt to say something about Proto-Tiwa. An unusual article in that he uses data gathered from Tiwa speakers at Isleta del Sur.]

Leap, William. 1971. 'Who were the Piro?' AL 13:321-330. [Piro, extinct since the late 19th century, is widely considered to have been a Tanoan language, with a close relationship to Tiwa. Comparing Tiwa and Piro word lists, Leap argues against this.]

Martin, Constance C. 1964. Jemez Phonology. University of New Mexico MA thesis. [Detailed description of Jemez phonology, especially valuable for its lists of minimal pairs. Martin's Jemez phonemics differ from those of most other researchers.]

McKenzie, Parker and John P. Harrington. 1948. Popular Account of the Kiowa Indian Language. Santa Fe, New Mexico: University of New Mexico Press. [A description of the phonetics and phonology of Kiowa, with some grammatical details. Contains a very brief text with a glossary.]

McLaughlin, John E. 1983. 'A working bibliography of the languages of (roughly) the western United States.' Kansas Working Papers in Linguistics, 8/2, pp. 247-367. [Indispensable. Kiowa-Tanoan entries are on pp. 279-285.]

Merrifield, William. 1959. 'The Kiowa verb prefix.' IJAL 25:168-176. [A description of some aspects of the verbal morphology and a tagmemic analysis.]

Merrifield, William. 1959. 'Classification of Kiowa nouns.' IJAL 25:269-271. [Attempts to refine Wonderly et al.'s 1954 account of Kiowa noun classes by adding considerations of syntactic behavior.]

Miller, Wick. 1959. 'A note on Kiowa linguistic affiliations.' AA 61:102-105. [By means of a word

list and cognates, supports Harrington's 1910 postulation of a relationship between Kiowa and Tanoan, and calls for more research.]

Mooney, James. 1898. 'Calendar History of the Kiowa Indians.' BAER 17. [Based on Kiowa annual and monthly calendars dating from 1833 through 1892, though it also contains some traditional stories and history from an earlier time. Very little here on the language, but a great deal of anthropology is presented in the course of the history.]

Myers, Beatrice. 1968. Towa Phrase Structure. University of North Dakota MA thesis. Abridged in SIL 14/2. [A description of Jemez phonology, morphology, and syntax.]

Parsons, Elsie Clews. 1925. The Pueblo of Jemez. Yale University Press. [A few pages of word lists, focusing on kin and kiva terms, in an otherwise completely ethnological description.]

Parsons, Elsie Clews. 1932. 'Isleta.' BAEB 47. [An anthropological treatise, but with some bilingual texts included. The texts are poorly glossed.]

Parsons, Elsie Clews. 1932. 'The kinship nomenclature of the Pueblo Indians.' AA 34:377-389. [Focuses on Tewa, though other tribes are considered. Includes a twelve-language fold-out chart of all the kinship terms of all the Southwestern Pueblos.]

Robbins, Wilfred W., John P. Harrington, and Barbara Freire-Marreco. 1916. 'Ethnobotany of the Tewa Indians.' BAEB 55. [An introduction to the Tewa view of plants in general is followed by a list of plants with their Tewa and scientific names. The notes describe the plants and their place in Tewa culture. Includes an index of English names.]

Schroeder, Albert. 1964. 'The language of the Saline Pueblos: Piro or Tewa?' New Mexico Historical Review 39:235-249. [By 1700 all of the pueblos east of the Manzano Mountains had been abandoned. It has long been assumed that some of these villages spoke Tiwa and some Piro. Relying on contemporary chronicles and records, Schroeder contends that all the Salinas villages were Piro speaking.]

Sivertsen, Eva. 1956. 'Pitch problems in Kiowa.' IJAL 22:117-130. [Claims that if length and pitch

are taken to be lexically and grammatically contrastive, then stress and laryngealization are predictable.]

Speirs, Anna. 1974. 'Classificatory verb stems in Tewa.' SIL 24:45-64. [Tewa has stem classifiers in limited semantic domains. These are discussed and compared with Athabaskan classificatory verbs.]

Speirs, Randall H. 1966. Some Aspects of the Structure of Rio Grande Tewa. SUNY at Buffalo PhD dissertation. [Focuses on phonology and morphology, and has a wealth of data.]

Speirs, Randall H. 1972. 'Number in Tewa.' Studies in Linguistics in Honor of George L. Trager, edited by M. Estellia Smith. Janua Linguarum, Series Maior, 52, pp. 479-486. [Presents material from his dissertation on the number marking of nouns.]

Trager, Edith. 1960. The Kiowa Language: A Grammatical Study. University of Pennsylvania PhD thesis.

Trager, Felicia Harben. 1968. Picuris Pueblo, New Mexico: An Ethnolinguistic 'Salvage' Study. SUNY at Buffalo PhD dissertation. [An introduction to the history of the Pueblo, coupled with a phonological sketch of the language. The dissertation is very short, less than a hundred pages, and only twenty-five of these are devoted to the actual description of the language.]

Trager, Felicia Harben. 1971. 'The phonology of Picuris.' IJAL 37:29-33. [Phonemic inventory and allophonic rules. The language at Picuris is very weak, and this is evident in her portrayal of phonological decay. The description of nasalization inconsistency is especially interesting.]

Trager, Felicia Harben. 1971. 'Some aspects of "time" at Picuris Pueblo (with an addendum on the Nootka).' AL 13:331-338. [Spanish and English loan words for the days of the week, months, etc. are given, and their usage described.]

Trager, Felicia Harben. 1972. 'Retention and loss in Picuris kinship terms.' Studies in Linguistics in Honor of George L. Trager, ed. by M. Estellia Smith. Janua Linguarum, Series Maior, 52, pp. 474-478. [A few pages of kin terms, apparently elicited with great difficulty, taken from her 1968 dissertation.]

Trager, Felicia Harben. 1975. 'Morphemic change in Picuris.' SIL 25:89-93. [Presents evidence that the typically Tanoan system of 'inverse number' is breaking down and being replaced with a straight singular-plural system. Suggests that this is the result of the influence of Spanish and English.]

Trager, George L. 1939. 'The days of the week in the language of Taos Pueblo, New Mexico.' Lg 15:51-55. [Weekday names are an example of Spanish loan words adopted at a time when Spanish was poorly known. The phonological changes are described, New Mexico Spanish being considered the donating language rather than standard Spanish. Trager notes that these are now being replaced by the English words.]

Trager, George L. 1942. 'The historical phonology of the Tiwa languages.' SIL 1. [Compares and contrasts Northern and Southern Tiwa in an effort to reconstruct Proto-Tiwa.]

Trager, George L. 1943. 'The kinship and status terms of the Tiwa languages.' AA 45:557-571. [Simply makes available in one place all of his material on Taos, Picuris, Sandia, and Isleta.]

Trager, George L. 1944. 'Spanish and English loanwords in Taos.' IJAL 10:144-158. [Lists words borrowed and the phonological changes they have undergone. Also has sociolinguistic observations on the usage of borrowed words and the attitude of the Taos people to them.]

Trager, George L. 1946. 'An outline of Taos grammar.' In Linguistic Structures of Native America. Ed. by Cornelius Osgood. New York: Viking Fund, pp. 184-221. [Description of the phonology, morphology, and syntax of the language.]

Trager, George L. 1948. 'Taos I: A language revisited.' IJAL 14:155-160. [First in a series of articles that revise and restate his findings in his 'Outline of Taos Grammar.' The restatement is necessary due to a shift in theoretical perspective: the theory of junctures is much more prominent in these articles than in the original outline. Contains a general discussion on field methods which emphasizes the need to 'revisit' the work after preliminary analysis.]

Trager, George L. 1951. 'Note on Kiowa and Tanoan.' Journal of the Washington Academy of Sciences 41:341-343.

Trager, George L. 1954. 'Taos II: Pronominal reference.' IJAL 20:173-180. [Continues the program begun in Trager 1948, focusing on noun and verbal affixes.]

Trager, George L. 1960. 'Taos III: Paralanguage.' AL 2,2:24-30. [Discusses 'paralanguage' without really explaining what it is. Contains a long and fairly interesting description of conducting the elicitation on this in Taos. Article really says very little about the language itself.]

Trager, George L. 1960. 'The name of Taos, New Mexico.' AL 2,3:5-6. [Just a bit of phonology and loan word discussion in this brief note.]

Trager, George L. 1961. 'Taos IV: Morphemes, syntax, semology in nouns and in pronominal reference.' IJAL 27:211-225. [Reanalysis and revision of much of the material in the grammar sketch and in the Taos II article, with semantics as the specific focus. Some comparison with Kiowa. Done entirely within the tagmemic framework.]

Trager, George L. 1969. 'Taos and Picuris -- How long separated?' IJAL 35:180-182. [Uses archaeological evidence to fix the outside date at about 700 years ago, and then examines the linguistic evidence to see whether it by itself could provide a reliable date for the separation time. He concludes that the linguistic evidence could be used to support a separation date of 700 years ago, or 350 years ago, or it could even be read so as to indicate that there was no separation. He observes that extreme caution is needed when attempting to determine time-depth in languages.]

Trager, George L. and Edith C. Trager. 1959. 'Kiowa and Tanoan.' AA 61:1078-1083. [Takes Miller 1959 to task for not referring to Trager 1951 in his discussion of a link between Kiowa and Tanoan. Recapitulates the thesis of that paper, that Kiowa and Tanoan are linked and that the split between them happened not later that 1000 AD. Also holds out the possibility that Kiowa is even closer to Tanoan and that it should be regarded 'as simply an early-departing Tanoan language.']

Trager, George L. and Felicia H. Trager. 1970. 'The cardinal directions at Taos and Picuris.' AL 12:31-37. [Introduction to the directional term system and its use by Taos speakers.]

Trager-Johnson, Edith Crowell. 1972. 'Kiowa and English pronouns: Contrastive morpho-semantics.' Studies in Linguistics in Honor of Raven I. McDavid, Jr., edited by Lawrence Davis. University of Alabama Press, pp. 293-304. [Beginning with a reflection on Martin Buber, she discusses the semantics of pronouns in Kiowa and English.]

Voegelin, C. F. 1962. 'Methods for typologizing directly and by distinctive features (in reference to Uto-Aztecan and Kiowa-Tanoan vowel systems).' Lingua 11:469-487. [Presents and types the vowel systems of all of the Kiowa-Tanoan languages, showing their strong similarity as well as their differences from the languages of neighboring pueblos. Instead of using the features high/low and front/back, he uses compact/diffuse, acute/grave, and flat/plain.]

Voegelin, C. F. and F. M. Voegelin. 1976. 'Southwestern and Great Basin languages.' Native Languages of the Americas, vol. 1, edited by Thomas Sebeok. Plenum Press, pp. 461-503. [An areal survey of the Southwest, and so necessarily very sketchy on each of the language groups. Has a good bibliography and a list of who is working on what language.]

Watkins, Laurel. 1976. 'The syntax and semantics of switch-reference in Kiowa.' Proceedings of the 1976 Mid-American Linguistics Conference. Ed. by Robert L. Brown, Jr. et al. Minneapolis: University of Minnesota.

Watkins, Laurel. 1977. 'Kiowa-Tanoan internal relationships.' Proceedings of the 1977 Mid-American Linguistics Conference. Ed. by Donald M. Lance and Daniel E. Gulstad. Columbia, Missouri: University of Missouri. [Presents phonological evidence for an early Kiowa-Tanoan separation.]

Watkins, Laurel. 1978. 'Subject, empathy, and switch-reference in Kiowa.' Proceedings of the 1978 Mid-American Linguistics Conference. Ed. by Ralph Cooley et al. Norman, Oklahoma: University of Oklahoma. [Argues that the grammatical relation of

subject receives little prominence in Kiowa, and that the semantic roles of agent and patient are much more significant.]

Watkins, Laurel. 1978. 'On *w and *y in Kiowa Tanoan.' BLS 4:477-484. [Presents correspondences to show the closeness of the members of the Kiowa-Tanoan family, and develops a Proto-Kiowa-Tanoan phonemic inventory, to account for Kiowa's having a 'y' but no 'w'.]

Watkins, Laurel with Parker McKenzie. 1984. A Grammar of Kiowa. Lincoln, Nebraska: University of Nebraska Press. [Full treatment of the phonology, morphology, and syntax of the language; includes two well-glossed and annotated texts.]

Watkins, Laurel. 1982. 'Passives and verb agreement in Kiowa-Tanoan.' Kansas Working Papers in Linguistics 7:209-221. [Argues that reported passive constructions in Tanoan are better understood as the result of agent marking, and that semantic roles are probably more significant than grammatical relations for the analysis of the constructions in question.]

Watkins, Laurel. 1987. 'Switch-reference in Kiowa discourse.' Papers from the 1987 Mid-America Linguistics Conference. Michael Henderson, ed. Lawrence, Kansas: University of Kansas. [Argues that switch-reference phenomena in Kiowa can be better accounted for in terms of semantic roles than grammatical relations.]

Whorf, Benjamin L. and George L. Trager. 1937. 'The relationship of Uto-Aztecan and Tanoan.' AA 39: 609-624. [Finds enough correspondences to verify the connection and to warrant the postulation of a family called 'Azteco-Tanoan'. The sound system of the proto-language is reconstructed.]

Wonderly, William L., Lorna F. Gibson, and Paul L. Kirk. 1954. 'Number in Kiowa: Nouns, demonstratives, and adjectives.' IJAL 20:1-7. [One of the first descriptions of 'inverse number.' The suffix /-ga/ marks plural in some nouns and singular in others, and so the analysis demands an assignment of inherent number to nouns, with this suffix denoting the inverse of that inherent number.]

Yegerlehner, John. 1957. Phonology and Morphology of Hopi-Tewa. Indiana University PhD dissertation.

Yegerlehner, John. 1958. 'Structure of Arizona Tewa words, spoken and sung.' IJAL 24:264-267. [Study of tone, stress, accent, and their interaction.]

Yegerlehner, John. 1959. 'Arizona Tewa I: Phonemes.' IJAL 25:1-7. [Provides a phonemic inventory. He uses a highly idiosyncratic classifying system, and it is not easy to follow either the system or the reason for employing it,]

Yegerlehner, John. 1959. 'Arizona Tewa II: Person markers.' IJAL 25:75-80. [Offers paradigms and lots of examples of the verbal prefixes.]

Yumitani, Yukihiro. 1987. 'A comparative sketch of Pueblo languages: Phonology.' Kansas Working Papers in Linguistics 12:119-139. [A comparison of the phonemic inventories of Zuni, Western and Eastern Keresan, and the three Tanoan languages. Includes an extensive bibliography and phoneme charts.]

Yumitani, Yukihiro. 1988. 'Noun classes in Towa.' Paper presented to the 1988 Mid-American Linguistics Conference at the University of Oklahoma. [Describes the Jemez noun class system, and compares it with those of the other Kiowa-Tanoan languages.]

Zaharlick, Amy. 1975. 'Pronominal reference in Picuris.' SIL 25:79-88. [Presents paradigms for the different classes of Picuris nouns, verbs, person markers, and independent pronouns.]

Zaharlick, Amy. 1977. Picuris Syntax. American University PhD dissertation. [Takes Felicia Harben Trager 1968 as the basis for the phonological description, making some additions and corrections. Because of the difficulty in finding and working with fluent speakers, the syntax is based on four (corrected) texts originally transcribed by John P. Harrington. The syntactic analysis is 'classic' transformational.]

Zaharlick, Amy. 1982. 'Tanoan studies: Passive sentences in Picuris.' Ohio State University Working Papers in Linguistics 26:34-48. [A study of passive in Picuris, presented so as to facilitate comparison with the Southern Tiwa data given in Allen and Gardiner 1981. The Picuris passive is very similar to Isleta, which is taken as support for the Relational Grammar analysis adopted in the Allen and Gardiner article.]

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